Exhibit A

Cumulative Exposure Expert Report
Kelly A Reynolds, MSPH, PhD

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Re: CAMP LEJEUNE WATER LITIGATION

I. Background and Qualifications

I am a tenured Professor and Chair of the Community, Environment & Policy Department at the University of Arizona's Zuckerman College of Public Health and Director of the Environment, Exposure Science and Risk Assessment Center (ESRAC). I received my Bachelor of Science in Microbiology from the University of Arizona in 1989, my Master of Science in Public Health from the University of South Florida in 1992, and my PhD in Environmental Sciences from the University of Arizona in 1995. While pursuing my doctoral degree at the University of Arizona I worked as a research fellow in the Department of Soil and Water Science at the College of Agriculture. Upon obtaining my PhD I became a postdoctoral fellow and teaching assistant. I then progressed through various positions, ultimately becoming a tenured Associate Professor in 2012. From 2018 to the present, I have served as the Chair of the Department of Community, Environment and Policy in the College of Public Health. I obtained the title of full Professor at that time, and from 2021-2022 I was appointed the Interim Associate Dean for Research for the College of Public Health. In 2013 I co-founded, and have since served as the director of the University of Arizona's Environment, Exposure Science and Risk Assessment Center (www.esrac.arizona.edu), a consortium of academic, government, and industry professionals working to advance exposure sciences and human health risk assessment research methods and outreach. Since 2021, I have also been the director of the US Department of Health and Human Services- funded Western Region Public Health Training Center (www.wrphtc.arizona.edu), a technical assistance and training center for the Region 9 (Arizona, California, Nevada, Hawaii, and the US Pacific Islands) public health workforce.

With over 36 years of experience in environmental health sciences, I specialize in water quality, human health risk assessment, exposure science, and environmental hazards. My research and expertise center on quantifying human health risks associated with microbial and chemical contaminants in water systems, including drinking water, wastewater, and recreational waters. I have developed risk assessment models, rapid contaminant detection technologies, and public health interventions that inform regulatory policies and industry best practices. My work has been funded by leading agencies such as the Centers for Disease Control and Prevention (CDC), U.S. Environmental Protection Agency (USEPA), National Science Foundation (NSF), and Water Quality Research Foundation.

As an internationally recognized expert, I have served as a scientific advisor for regulatory agencies, industry groups, and public health organizations, offering expertise on waterborne disease transmission, microbial risk assessment, water reuse safety, and emerging contaminants. I have contributed to policy development and regulatory compliance evaluations, including assessing health impacts from water contamination events and providing expert input on drinking water treatment standards.

My leadership in scientific advisory panels, government task forces, and industry working groups ensures that I remain at the forefront of emerging issues in water quality and risk assessment methodologies. My quantitative microbial risk assessment (QMRA) models have been applied to evaluating issues related to water safety, exposure pathways, and health risk mitigation strategies. I have received several honors and awards that are set out in my *curriculum vitae* that is being provided with this report. I have remained active in local, state, national, and international outreach in media presentations and publications.

My publications in scholarly books and textbooks, as well as in refereed, peer-reviewed journals are likewise documented in my *curriculum vitae.* Included in my publications and presentations are topics that touch upon the issues in the present case, including, for example, quantification of exposure, assessing levels of contamination, estimating exposure from historical data, and environmental contamination. With a track record of publishing over 430 peer-reviewed articles, book chapters, and technical reports, and giving over 138 invited and 97 submitted presentations, since 2006. I provide scientific, data-driven assessments that support the evaluation of waterborne contamination, exposure risks, quantitative risk assessment, and environmental health impacts. A list of my funded research is included in my *curriculum vitae* as well.

II. Scope of Assignment

I have been asked to write a report reconstructing potential water ingestion models for Marines and civilians who worked and/or lived at Marine Corps base Camp Lejeune during the period of water contamination between 1953 and 1987. I performed this reconstruction based upon available data, historical records, water modeling, and evidence of required water consumption in various Field Manuals from the military in effect during the operative years.

III. Materials Reviewed

In preparing my calculations attached to this report I reviewed and considered the following material:

- ATSDR, 2023 Exposure Dose Guidance for Water Ingestion
- ATSDR, 2017 ATSDR Assessment of the Evidence for the Drinking Water Contaminants at Camp Lejeune and Specific Cancers and Other Diseases
- ATSDR, 2017a Public Health Assessment
- Maslia et al., 2016 Reconstructing Historical VOC Concentrations in Drinking Water for Epidemiological Studies at a U.S. Military Base: Summary of Results

- Maslia et al., 2013 Chapter A Summary and Findings; Appendices A2, A7, A8 Reconstructed monthly mean concentrations
- Expert Report of Morris Maslia of October 25, 2024
- Depositions of each trial Plaintiff for whom a report is provided
- Official U.S. Military Field Manuals, 1957, 1970, 1980, 1982 and included water consumption guidelines
- Select military records of Plaintiffs from Marine Corps Base Camp Lejeune documenting beginning and ending dates stationed, working or residing at Camp Lejeune
- USEPA, 2011 Exposure Factors Handbook
- USEPA, webpage last updated January 31, 2025: Exposure Assessment Tools by Approaches- Indirect Estimation (Scenario Evaluation) https://www.epa.gov/expobox/exposure-assessment-tools-approaches-indirect-estimation-scenario-evaluation#factors
- Xu et al., 2016 A 5-Year Longitudinal Analysis of Modifiable Predictors for Outdoor Play and Screen-Time of 2- to 5-Year-Olds
- Huhmann et al., 2021 A Mass-Balance Model to Assess Arsenic Exposure from Multiple Wells in Bangladesh
- Deposition of Frank Bove of October 17-18, 2024

IV. Methodology

In attempting to reconstruct historical events, and particularly how much water was consumed by a Marine or a civilian in the 1950s to the 1980s, in my experience and in my profession I must resort to reconstructing models using the best-known and available data that exist. In the case of Marines and civilians who lived and worked on Marine Corps base Camp Lejeune, I utilize estimates provided by the Administration for Toxic Substances and Disease Registry (ATSDR), the scientific literature, Marine Corps records, the testimony of the Marine or civilian impacted, and recommendations for forecasting consumption between at-home, and at-work activities.

When attempting to model consumption for Marines on Marine Corps base Camp Lejeune, it is first important to understand when Marines were stationed at Camp Lejeune, whether they lived on or off base, and for what months they were on base. I consulted historical documents, including official military personnel records such as DD-214s, and reviewed deposition testimony regarding their time on base and their water consumption. These sources help recreate the timeline spent on base and identify any periods when a Marine was absent from Camp Lejeune. Due to the nature of a Marine's work tasks or possible deployments, it is possible for a Marine to be stationed

at Camp Lejeune but absent from the base for days, weeks, or months. Examples of these absences from the base could be due to deployments, extended training off base, or leave. I made every effort to account for such time away from Camp Lejeune when totaling days of exposure per month and in the aggregate.

In several cases there were Marines or civilians that worked on Marine Corps base Camp Lejeune, but who lived off base for part or all of their time while stationed or employed at Camp Lejeune. For such individuals, it is necessary to appropriately account for part of their water consumption/exposure time to be attributed to their off-base residence and part to their work time on base. As part of my methodology, I followed USEPA recommendations for an 8-hour occupational exposure day and a 16-hour residence exposure day, attributing 33% of consumption levels at their employment and 67% at their residence. The USEPA guidance on this division is based upon the assumption that 2/3 of a routine activity workday is spent at a person's residence, while 1/3 is spent at work (ATSDR, 2023). Given that Marines have testified that they spend longer days at work when participating in physical training (PT) and/or formal military training in the field (from a few to several days a month) proportionate estimates were modified. On days attributed to more intense PT or field training, compared to routine work activities (for example, desk work, equipment maintenance, or similar) I reversed this assumption and attributed 67% of the day's consumption at work and 33% of the day's consumption at home for those specifically identified events. I attribute 67% of PT and field training days to on-base consumption for two primary reasons: first, PT and field training days were longer and more physically taxing, requiring or inspiring greater consumption of water to maintain proper hydration; and second, many Marines testified to field training often requiring overnight stays in the field. Allowing only 67% of consumption for PT days for Marines living off-base is the most conservative way of accounting for increased consumption on base on these days. For those days attributed to overnight field training, I counted no at-home water consumption, resulting in a 100% consumption proportion.

Once the total number of days on Marine Corps base Camp Lejeune can be determined, and properly categorized as routine or PT/field activity days, the levels of the known contaminants in the water need to be understood. The ATSDR has provided monthly modeled levels for TCE, PCE, vinyl chloride, and benzene on a µg/L-month basis. I have used the ATSDR's peer-reviewed values for each applicable month, and corresponding volatile organic compounds (VOCs) and modeled projections in my exposure analysis to calculate cumulative exposures.[1] The calculation of days on base, separated on a month-by-month basis, exposure location, and VOC by average µg/L-month, as projected by ATSDR, are set out in the collection of tables produced for each individual plaintiff with this report.

Next, produced with this report is a series of exposure assessment charts. "Chart 1: Days on base and cumulative contaminant exposure concentrations (1L consumption per day)." sets out the cumulative monthly total contamination exposure for each of the VOCs the Marine or civilian was exposed to based upon the monthly average µg/L-month, and the number of days the Marine was on Camp Lejeune. Chart 1 calculations serve as a baseline template for the more detailed activity and proportionate exposure assessments in subsequent charts. In most instances this chart is simply days on base multiplied by µg/L-month for each VOC. This represents the total estimated exposure of a plaintiff if a default 1L volume of water was consumed, regardless of proportionate

[1] Bove depo, October 17, 2024, 296:25 – 297:9.

workplace/residence times (for example 1L at each location as a non-individualized baseline). This baseline chart was sometimes used to set up proportionate workplace/residence exposures as a template for later charts. Chart 1 is a template format for additional, individualized exposure assessment charts and is not intended to be used as a complete exposure assessment given only a 1 L estimated consumption volume.

Next, included in the report for plaintiffs are charts that provide a range of plausible exposure scenarios, informed by Marine or civilian activity reports. The total number of charts constructed varied based on deposition reported or assumed activities (for example training or consumption activities), based on ATSDR or Military Field Manual default drinking water ingestion volumes and the number of days per week attributed to routine or PT/field training activities, further differentiated based on the plaintiffs classification as a Marine in training, administrative personnel, civilian, or dependent. Activity classifications influenced estimated ingestion levels and plausible exposure ranges as well as proportionate exposure potential.

The number and format of additional charts constructed are dependent on plaintiff-specific data availability regarding the number of days of routine/light or heavy training activities and related estimates of water ingestion. If no activity or ingestion information was given in the plaintiff deposition, ATSDR default values were used to estimate the number of routine and heavy activities for a Marine in training to calculate cumulative contaminant exposure concentrations (ATSDR ingestion 6L/day 3 days per week and 3.1 L/day 4 days per week, or a combined reasonable maximum exposure, RME, and central tendency exposure, CTE, of 4.334 L/day). RME values assess exposures that are higher than average but still within a realistic exposure range while CTE values refer to persons with average or typical water intake rates (ATSDR, 2023).

Likewise, RME and CTE values for civilian workers and adult residents were estimated by the ATSDR and derived from the USEPA Exposure Factors Handbook (2011), at 3.092 L/day and 1.227 L/day, respectively. Additional ATSDR/USEPA estimates are given for a child aged 0-1 yrs (RME=1.113 L/day; CTE=0.504 L/day); 1-2 yrs (RME=0.893 L/day; CTE= 0.308 L/day); 2-3 yrs (RME=0.912 L/day; CTE=0.356 L/day); 3-6 yrs (RME=0.977 L/day; CTE=0.382 L/day) and 6-16 yrs (RME=1.69 L/day; CTE=0.574 L/day (ATSDR, 2017a). The values derived from applying the ATSDR assumptions demonstrate the Cumulative Consumption of each VOC contaminant on a monthly basis, and in total (TVOC). For each plaintiff, an Exposure Data Summary" table is also presented with cumulative totals for each individual charted scenario for each contaminant and exposure site location and also in total with all locations combined per contaminant.

For some plaintiffs, specific information was available in their deposition detailing their training and consumption habits. If their described ratio of heavy to routine/light training days differed from the ATSDR default assumptions, deposition-informed activity ratios were used. In addition, if consumption data was given, for example, recall of refilling and drinking a specific number of canteens (estimated to hold 32 oz each) during training, or a specific amount of coffee or tea (5-10 oz cups), "bug juice" or glasses of water (12 oz cups), or other beverage made from the contaminated water sources, deposition-informed ingestion data was used in the exposure assessment chart scenarios.

Similarly, information related to recommended ingestion volumes averaged from the four military field manuals was used to construct a separate chart using either ATSDR 3 days and 4

days per week of increased and decreased consumption levels due to heavy and routine training activities, respectively, or informed by deposition training activities where available. These charts utilize default values from military field manuals (FM) from 1957, 1970, 1980, and 1983. FM ingestion values were selected as recommended for a moderate temperature day in a tropical environment with temperatures exceeding 80ºF and with differentiation between light and heavy activities. FM 1957-1983 defines light activities as desk work, guard/kitchen duties while heavy activities included forced marches, entrenching or route marches with heavy loads, or wearing protective clothing. FM light and heavy activity recommended water ingestion volumes averaged over the four field manuals were 5.21 L/day and 8.52 L/day, respectively, in a moderate climate. Default ATSDR 4 days and 3 days light and heavy activity days per week, respectively, was used in combination with FM ingestion estimates to calculate FM exposure charts unless data was available from the plaintiff's deposition that informed a change in activity level days. As with the prior charts, the values derived from applying the FM assumptions demonstrate the Cumulative Consumption of each VOC contaminant on a monthly basis, and in total (TVOC). For each plaintiff, an "Exposure Data Summary" table is also presented with cumulative totals for each individual charted scenario for each contaminant and exposure site location and also in total with all locations combined per contaminant.

In the case of a civilian dependent, time on base for lunch, friend visits, or other activities was estimated for a child aged 5-7 yrs. There are no deposition-informed data to calculate the actual number of hours the plaintiff spent on base during these visits and there is a paucity of data in the exposure science literature to estimate a child's stamina levels for activities outside the home in this age range. Xu et al., 2016 provide some guidance to estimate a 2-5-year-old child's outdoor playtime at 2.28-2.64 hrs/day but involved a younger age group and competing interest with screen-time activities. Here I use a 4-hr visit out of a 24-hour day and 2 visits per week as a plausible proportionate exposure day assumption.

In another civilian dependent case, the plaintiff lived on base from about the ages of 2-16. They attended school at Hadnot Point and lived at Tarawa Terrace. Exposure scenario charts are presented using ATSDR RME and CTE default consumption values, prorated for school and residence proportionate time and over their progressive ages. An additional chart is presented using ATSDR RME values until the age category of 6+ where her deposition informed consumption levels were used.

As mentioned above, for each plaintiff, the cumulative results of the exposure assessment tables described are summarized in the attached "Exposure Data Summary." These tables provide a quick reference to the cumulative results of each of the different exposure calculations provided with a range of exposure assumptions or deposition-informed charts. Together, the tables provided are the product of my application of the methodology described above to the specific facts of each individual's available data.

The methods I have used in creating reasonably estimated cumulative consumption values of VOCs, and TVOCs, utilize standard methods that I have employed in my work as an environmental scientist and researcher. When possible, I have attempted to utilize objective data from verifiable sources, but like any forecasting model I have created previously, I have also had to rely upon subjective information at times as well. The methods utilized and the materials relied upon represent state-of-the-art methods for constructing competing models of exposure based on

available data. Further, the available data utilized in my calculations was derived from peer-reviewed sources, available testimony, and Military Field Manuals. Based on my education, training, and experience, these are the types of sources typically relied upon in my field. In situations like this where consumption and exposure variables are being reconstructed, it is common to provide a range of scenarios based on available data and a range of plausible exposure factors, which is what I attempted to do (ATSDR, 2023).While the varying reconstruction models provide differing exposure levels, presenting exposure results as a range of values is standard practice in exposure science and the methods and sources are sound. I state my findings to a reasonable degree of scientific certainty.

February 7, 2025

Kelly A. Reynolds, MSPH, PhD

Appendix 1
Mark Cagiano (Bladder Cancer)

Exposure Dates	Total Days	Exposure Location (Work)	TCE (ug/l-M)	PCE (ug/l-M)	VC (ug/l-M)	BZ (ug/l-M)
7/31/1976	1	Hadnot Point	348	12	16	3
8/1/1976-08/31/1976	31	Hadnot Point	436	15	20	4
9/1/1976-9/26/1976	26	Hadnot Point	356	11	16	3
10/09/1976-10/31/1976	23	Hadnot Point	70	2	3	3
11/1/1976-11/30/1976	30	Hadnot Point	543	19	26	4
12/1/1976-12/19/1976	19	Hadnot Point	520	19	25	3
12/27/1976-12/31/1976	5	Hadnot Point	520	19	25	3
1/1/1977-1/31/1977	31	Hadnot Point	249	9	12	4
2/1/1977-2/28/1977	28	Hadnot Point	346	13	17	3
3/1/1977-3/27/1977	27	Hadnot Point	342	13	17	2
4/5/1977-4/20/1977	16	Hadnot Point	218	8	11	4
11/14/1977-11/30/1977	17	Hadnot Point	544	22	30	4
12/1/1977-12/31/1977	31	Hadnot Point	513	21	28	4
1/1/1978-1/31/1978	31	Hadnot Point	250	10	14	4
2/1/1978-2/28/1978	28	Hadnot Point	348	14	19	3
3/1/1978-3/31/1978	31	Hadnot Point	352	15	20	3
4/1/1978-4/30/1978	30	Hadnot Point	231	9	13	5
5/1/1978-5/31/1978	31	Hadnot Point	278	12	16	4
6/1/1978-6/2/1978	2	Hadnot Point	333	14	19	3
7/1/1978-7/31/1978	31	Hadnot Point	388	17	23	3
8/1/1978-8/3/1978	3	Hadnot Point	475	20	28	4
8/14/1978-8/31/1978	18	Hadnot Point	475	20	28	4
9/1/1978-9/30/1978	30	Hadnot Point	364	16	22	4
10/01/1978-10/31/1978	31	Hadnot Point	74	3	4	4
11/1/1978-11/30/1978	30	Hadnot Point	544	24	33	5
12/1/1978-12/31/1978	31	Hadnot Point	546	24	33	4
1/1/1979-1/31/1979	31	Hadnot Point	268	12	16	6
2/1/1979-2/28/1979	28	Hadnot Point	370	17	23	5
3/1/1979-3/7/1979	7	Hadnot Point	378	17	24	5
11/28/1979-11/30/1979	3	Hadnot Point	507	23	33	6
12/1/1979-12/28/1979	28	Hadnot Point	504	23	33	6
1/3/1980-1/12/1980; 1/27/1980-1/31/1980	15	Hadnot Point	264	12	17	7
2/1/1980-2/29/1980	29	Hadnot Point	378	17	24	6
3/1/1980-3/31/1980	31	Hadnot Point	433	20	28	6
4/1/1980-4/30/1980	30	Hadnot Point	273	12	17	8
5/1/1980-5/26/1980	26	Hadnot Point	322	15	21	6
5/30/1987-5/31/1987	2	Hadnot Point	0	0	0	2
6/1/1987-6/30/1987	30	Hadnot Point	0	0	0	2
7/1/1987-7/31/1987	31	Hadnot Point	0	0	0	3
8/1/1987-8/31/1987	31	Hadnot Point	0	0	0	3
9/1/1987-9/30/1987	30	Hadnot Point	0	0	0	3
10/01/1987-10/31/1987	31	Hadnot Point	0	0	0	3
11/1/1987-11/30/1987	30	Hadnot Point	0	0	0	2
12/1/1987-12/31/1987	31	Hadnot Point	0	0	0	2
	1,056		**12,365**	**510**	**701**	**168**

Chart 1: Days on base and cumulative contaminant exposure concentrations (1 L consumption per day)

Total Days	TCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	PCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	VC (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	BZ (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	1L concentration summaries
									1
1	348	348	12	12	16	16	3	3	
31	436	13516	15	465	20	620	4	124	
26	356	9256	11	286	16	416	3	78	
23	70	1610	2	46	3	69	3	69	
30	543	16290	19	570	26	780	4	120	
19	520	9880	19	361	25	475	3	57	
5	520	2600	19	95	25	125	3	15	
31	249	7719	9	279	12	372	4	124	
28	346	9688	13	364	17	476	3	84	
27	342	9234	13	351	17	459	2	54	
16	218	3488	8	128	11	176	4	64	
17	544	9248	22	374	30	510	4	68	
31	513	15903	21	651	28	868	4	124	
31	250	7750	10	310	14	434	4	124	
28	348	9744	14	392	19	532	3	84	
31	352	10912	15	465	20	620	3	93	
30	231	6930	9	270	13	390	5	150	
31	278	8618	12	372	16	496	4	124	
2	333	666	14	28	19	38	3	6	
31	388	12028	17	527	23	713	3	93	
3	475	1425	20	60	28	84	4	12	
18	475	8550	20	360	28	504	4	72	
30	364	10920	16	480	22	660	4	120	
31	74	2294	3	93	4	124	4	124	
30	544	16320	24	720	33	990	5	150	

31	546	16926	24	744	33	1023	4	124
31	268	8308	12	372	16	496	6	186
28	370	10360	17	476	23	644	5	140
7	378	2646	17	119	24	168	5	35
3	507	1521	23	69	33	99	6	18
28	504	14112	23	644	33	924	6	168
15	264	3960	12	180	17	255	7	105
29	378	10962	17	493	24	696	6	174
31	433	13423	20	620	28	868	6	186
30	273	8190	12	360	17	510	8	240
26	322	8372	15	390	21	546	6	156
2	0	0	0	0	0	0	2	4
30	0	0	0	0	0	0	2	60
31	0	0	0	0	0	0	3	93
31	0	0	0	0	0	0	3	93
30	0	0	0	0	0	0	3	90
31	0	0	0	0	0	0	3	93
30	0	0	0	0	0	0	2	60
31	0	0	0	0	0	0	2	62
1,056		**115,100**		**5,187**		**7,219**		**2,237**

Chart 2: Days on base and cumulative contaminant exposure concentrations (ATSDR ingestion 6L/day 3 days per week and 3L per day 4 days per week)

Total Days	TCE (ug/l-M)	Cumulative consumption (total ug* days*concentration per ATSDR exposure assumptions)	PCE (ug/l-M)	Cumulative consumption (total ug* days*concentration per ATSDR exposure assumptions)	VC (ug/l-M)	Cumulative consumption (total ug* days*concentration per ATSDR exposure assumptions)	BZ (ug/l-M)	Cumulative consumption (total ug* days*concentration per ATSDR exposure assumptions)	ATSDR ingestion 6L/day 3 days per week	Days per week	ATSDR ingestion 3L per day 4 days per week	Days per week
									6	**3**	**3.1**	**4**
1	348	1511	12	52	16	69	3	13				
31	436	58698	15	2019	20	2693	4	539				
26	356	40197	11	1242	16	1807	3	339				
23	70	6992	2	200	3	300	3	300				
30	543	70745	19	2475	26	3387	4	521				
19	520	42907	19	1568	25	2063	3	248				
5	520	11291	19	413	25	543	3	65				
31	249	33523	9	1212	12	1616	4	539				
28	346	42074	13	1581	17	2067	3	365				
27	342	40102	13	1524	17	1993	2	235				
16	218	15148	8	556	11	764	4	278				
17	544	40163	22	1624	30	2215	4	295				
31	513	69064	21	2827	28	3770	4	539				
31	250	33657	10	1346	14	1885	4	539				
28	348	42317	14	1702	19	2310	3	365				
31	352	47389	15	2019	20	2693	3	404				
30	231	30096	9	1173	13	1694	5	651				
31	278	37427	12	1616	16	2154	4	539				
2	333	2892	14	122	19	165	3	26				
31	388	52236	17	2289	23	3096	3	404				
3	475	6189	20	261	28	365	4	52				
18	475	37131	20	1563	28	2189	4	313				
30	364	47424	16	2085	22	2866	4	521				
31	74	9963	3	404	4	539	4	539				
30	544	70875	24	3127	33	4299	5	651				
31	546	73507	24	3231	33	4443	4	539				
31	268	36080	12	1616	16	2154	6	808				
28	370	44992	17	2067	23	2797	5	608				
7	378	11491	17	517	24	730	5	152				
3	507	6605	23	300	33	430	6	78				
28	504	61286	23	2797	33	4013	6	730				
15	264	17198	12	782	17	1107	7	456				
29	378	47606	17	2141	24	3023	6	756				
31	433	58294	20	2693	28	3770	6	808				
30	273	35568	12	1563	17	2215	8	1042				
26	322	36358	15	1694	21	2371	6	677				
2	0	0	0	0	0	0	2	17				
30	0	0	0	0	0	0	2	261				
31	0	0	0	0	0	0	3	404				
31	0	0	0	0	0	0	3	404				
30	0	0	0	0	0	0	3	391				
31	0	0	0	0	0	0	3	404				
30	0	0	0	0	0	0	2	261				
31	0	0	0	0	0	0	2	269				
1,056		**1,319,000**		**54,399**		**74,593**		**18,340**				

Chart 3: Days on base and cumulative contaminant exposure concentrations- deposition informed activities; FM 1957-1983 moderate day averages

Table 3: Parameters Used for Exposure Assessment- Ingestion and Dermal Pathways

Age	ED (yrs)	EF (days/ yr)	LT[a] (yrs)	Ingestion Pathway						Dermal Pathway						ADAF
				Ingestion Rate[a] (L/day)				BW[a] (kg)		Skin surface area[a] (cm^2)		Lsc[b]	Kp	tau	t*	B	
				RME		CTE											
Child (age 0–1)	3	350	78	1.113	0.994	0.504	0.389	7.8	10.9	4,567	5,889	0.001	chemical-specific values[b]				10
Child (age 1–2)				0.893		0.308		11.4		6,100		0.001					10
Child (age 2–3)				0.912		0.356		13.6		7,000		0.001					3
Child (age 3–6)				0.977		0.382		17.4		9,500		0.001					3
Child (age 6–16)				1.690		0.574		44.3		17,700		0.001					3
Adult resident				3.092		1.227		80		24,265		0.001					1
Civilian worker	3-15	250	78	3.092		1.227		80		24,265		0.001					1
Marine-in-training*	3	350	78	4.334		4.334		80		24,265		0.001					1

[a] Values from U.S. EPA Exposure Factors Handbook (USEPA 2011d); Ingestion Rate-Table 3-1 (consumers-95th percentile); Body Weight- Table 8-1(50th percentile); Skin Surface Area- Table 7-1 (95th percentile)

[b] Values from U.S. EPA Dermal Risk Assessment Guidance (USEPA 2004)

ADAF = age dependent adjustment factor for chemicals that act by a mutagenic mode of action (kidney cancer for TCE) (USEPA 2005)

B = dimensionless ratio of the permeability coefficient of a compound through the stratum corneum relative to its permeability coefficient across the viable epidermis (unitless)

BW = body weight (kg)

CTE = central tendency exposure

ED = exposure duration (yrs)

IR = Ingestion rate (L/day)

K_p = permeability constant (cm/hr)

L_{sc} = apparent thickness of stratum corneum; used to calculate tau (cm)

LT= lifetime (yrs)

RME = reasonable maximum exposure

tau = lag time per event (hours/event)

t* = time to reach steady-state (hours)

*Marine-in-training: assumes water ingestion rate of 6 L/day for 3x per week and 3.1 L/day for 4x per week; developed by combining information gathered from former Marines at the community assistance panel meetings and recommended military fluid replacement guidelines (Kolka et al., 2003)

Total Days (work)	TCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per deposition exposure assumptions)	PCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per deposition exposure assumptions)	VC (ug/l-M)	Cumulative consumption (total ug= days*concentration per deposition exposure assumptions)	BZ (ug/l-M)	Cumulative consumption (total ug= days*concentration per deposition exposure assumptions)	3 days per week training heavy activity from deposition; FM average ingestion 1957-1983; moderate day: desert/tropical <80oF	Days per week	4 days per week training light activity from deposition; FM average ingestion 1957-1983; moderate day: desert/tropical <80oF	Days per week
									8.52	3.00	5.21	4.00
1	348	2306	12	44	16	106	3	20				
31	436	89553	15	1698	20	4108	4	822				
26	356	61328	11	1044	16	2756	3	517				
23	70	10667	2	168	3	457	3	457				
30	543	107933	19	2081	26	5168	4	795				
19	520	65462	19	1318	25	3147	3	378				
5	520	17227	19	347	25	828	3	99				
31	249	51144	9	1019	12	2465	4	822				
28	346	64190	13	1329	17	3154	3	557				
27	342	61182	13	1282	17	3041	2	358				
16	218	23110	8	467	11	1166	4	424				
17	544	61275	22	1366	30	3379	4	451				
31	513	105369	21	2377	28	5751	4	822				
31	250	51349	10	1132	14	2876	4	822				
28	348	64561	14	1431	19	3525	3	557				
31	352	72300	15	1698	20	4108	3	616				
30	231	45916	9	986	13	2584	5	994				
31	278	57100	12	1358	16	3286	4	822				
2	333	4413	14	102	19	252	3	40				
31	388	79694	17	1924	23	4724	3	616				
3	475	9442	20	219	28	557	4	80				
18	475	56650	20	1315	28	3339	4	477				
30	364	72353	16	1753	22	4373	4	795				
31	74	15199	3	340	4	822	4	822				
30	544	108132	24	2629	33	6559	5	994				
31	546	112147	24	2717	33	6778	4	822				
31	268	55046	12	1358	16	3286	6	1232				
28	370	68642	17	1738	23	4267	5	928				
7	378	17532	17	435	24	1113	5	232				
3	507	10078	23	252	33	656	6	119				
28	504	93502	23	2352	33	6122	6	1113				
15	264	26238	12	657	17	1690	7	696				
29	378	72631	17	1800	24	4611	6	1153				
31	433	88937	20	2264	28	5751	6	1232				
30	273	54265	12	1315	17	3379	8	1590				
26	322	55470	15	1424	21	3618	6	1034				
2	0	0	0	0	0	0	2	27				
30	0	0	0	0	0	0	2	398				
31	0	0	0	0	0	0	3	616				
31	0	0	0	0	0	0	3	616				
30	0	0	0	0	0	0	3	596				
31	0	0	0	0	0	0	3	616				
30	0	0	0	0	0	0	2	398				
31	0	0	0	0	0	0	2	411				
1,056		2,012,342		45,738		113,803		27,980				

Summed variable totals

		Chart 1: 1L	Chart 2: ATSDR	Chart 3: Deposition/FM
	Cumulative ug/l-M	Cumulative consumption (total ug= days*concentration per L)	Cumulative consumption (total ug= days*concentration per ATSDR exposure assumptions)	Cumulative consumption (total ug= days*concentration per deposition/FM exposure assumptions)
TCE	12,365	115,100	1,319,000	2,012,342
PCE	510	5,187	54,399	45,738
VC	701	7,219	74,593	113,803
BZ	168	2,237	18,340	27,980

Appendix 2

Jefferson Criswell (Bladder Cancer)

Exposure Dates	Total Days	Exposure Location (Work)	TCE (ug/L-M)	PCE (ug/L-M)	VC (ug/L-M)	BZ (ug/L-M)	Exposure Dates	Total Days	Residential Location	TCE(ug/L-M)	PCE (ug/L-M)(TechRow MP Model)	PCE (ug/L-M)(MT3DMS Model)	VC (ug/L-M)	BZ (ug/L-M)
1/4/1975-1/31/1975	28	Hadnot Point	179	4	7	3								
2/1/1975-2/28/1975	28	Hadnot Point	252	6	11	3								
3/1/1975-3/31/1975	31	Hadnot Point	261	6	11	2								
4/1/1975-4/30/1975	30	Hadnot Point	174	4	7	3								
5/1/1975-5/31/1975	31	Hadnot Point	211	5	9	3								
6/1/1975-6/30/1975	30	Hadnot Point	260	7	11	2								
7/1/1975-7/28/1975	28	Hadnot Point	294	8	13	3								
7/29/1975-7/31/1975	3	Hadnot Point	294	8	13	3	7/29/1975-7/31/1975	3	Tarawa Terrace	1.77	44.45	62.05	2.78	0
8/1/1975-8/31/1975	31	Hadnot Point	368	10	16	3	8/1/1975-8/31/1975	31	Tarawa Terrace	1.78	44.52	62.25	2.81	0
9/1/1975-9/30/1975	30	Hadnot Point	285	8	12	3	9/1/1975-9/30/1975	30	Tarawa Terrace	1.78	44.57	62.46	2.83	0
10/1/1975-10/31/1975	31	Hadnot Point	61	1	2	3	10/1/1975-10/31/1975	31	Tarawa Terrace	1.78	44.62	62.69	2.85	0
11/1/1975-11/30/1975	30	Hadnot Point	503	14	23	3	11/1/1975-11/30/1975	30	Tarawa Terrace	1.78	44.69	62.92	2.87	0
12/1/1975-12/31/1975	31	Hadnot Point	451	13	20	3	12/1/1975-12/31/1975	31	Tarawa Terrace	1.78	44.74	63.18	2.89	0
1/1/1976-1/31/1976	31	Hadnot Point	227	7	10	3	1/1/1976-1/31/1976	31	Tarawa Terrace	2.06	51.53	73.96	3.34	0
2/1/1976-2/29/1976	29	Hadnot Point	317	10	14	3	2/1/1976-2/29/1976	29	Tarawa Terrace	2.15	53.43	74.94	3.6	0
3/1/1976-3/31/1976	31	Hadnot Point	323	10	15	2	3/1/1976-3/31/1976	31	Tarawa Terrace	2.20	54.44	75.97	3.72	0
4/1/1976-4/30/1976	30	Hadnot Point	212	6	9	4	4/1/1976-4/30/1976	30	Tarawa Terrace	2.24	55.38	76.97	3.85	0
5/1/1976-5/31/1976	31	Hadnot Point	257	8	12	3	5/1/1976-5/31/1976	31	Tarawa Terrace	2.28	56.21	78.00	3.98	0
6/1/1976-6/30/1976	30	Hadnot Point	314	10	15	3	6/1/1976-6/30/1976	30	Tarawa Terrace	2.32	57.07	79.02	4.1	0
7/1/1976-7/31/1976	31	Hadnot Point	348	12	16	3	7/1/1976-7/31/1976	31	Tarawa Terrace	2.35	57.86	80.07	4.22	0
8/1/1976-8/31/1976	31	Hadnot Point	436	15	20	4	8/1/1976-8/31/1976	31	Tarawa Terrace	2.39	58.73	81.13	4.34	0
9/1/1976-9/15/1976	0	Hadnot Point	336	11	16	3	9/1/1976-9/15/1976	15	Tarawa Terrace	2.43	59.58	82.17	4.46	0
9/16/1976-9/30/1976	15	Hadnot Point	336	11	16	3	9/16/1976-9/30/1976	15	Tarawa Terrace	2.43	59.58	82.17	4.46	0
10/1/1976-10/31/1976	31	Hadnot Point	70	2	3	3	10/1/1976-10/31/1976	31	Tarawa Terrace	2.46	60.41	83.25	4.57	0
11/1/1976-11/30/1976	30	Hadnot Point	543	19	26	4	11/1/1976-11/30/1976	30	Tarawa Terrace	2.50	61.28	84.31	4.68	0
12/1/1976-12/31/1976	31	Hadnot Point	520	19	25	3	12/1/1976-12/31/1976	31	Tarawa Terrace	2.53	62.10	85.41	4.79	0
1/1/1977-1/31/1977	31	Hadnot Point	249	9	12	4	1/1/1977-1/31/1977	31	Tarawa Terrace	2.57	62.97	86.61	4.89	0
2/1/1977-2/28/1977	28	Hadnot Point	346	13	17	3	2/1/1977-2/28/1977	28	Tarawa Terrace	2.62	63.98	87.70	5.01	0
3/1/1977-3/31/1977	31	Hadnot Point	342	13	17	2	3/1/1977-3/31/1977	31	Tarawa Terrace	2.65	64.81	88.91	5.11	0
4/1/1977	1	Hadnot Point	218	8	11	4	4/1/1977	1	Tarawa Terrace	2.70	65.83	90.10	5.22	0
	804		8,357	298	380	85		612		46	1,147	1,594	82	-

Notes:

deposition states mostly only 1 day in field training, only remember being overnight a couple of times but may be confusing with Fort Bragg
exercised every day, PT gear, exercise M-F, drank lots of water.
drank tea at home
went to chow hall but not often -drank milk or juices; usually packed lunch.
no details on water consumption recall.
estimated a couple of overnights at HP over total time
do not duplicate rows 9 and 24 in sum totals
*Row 23 dates consider leave time exposure due to his residential location.

Chart 1: Days on base and cumulative contaminant exposure concentrations (1 L consumption per day)

Exposure Dates	Total Days	Exposure Location (Work)	HP Exposure Location (residence of base but 1 night per month at HP)	Total days HP exposure in residence or during w/n field training	TCE (ug/L-M)	Cumulative consumption (total ug= days*concentration per L)	PCE (ug/L-M)	Cumulative consumption (total ug= days*concentration per L)	VC (ug/L-M)	Cumulative consumption (total ug= days*concentration per L)	BZ (ug/L-M)	Cumulative consumption (total ug= days*concentration per L)	Exposure Dates	Total Days TT exposure minus 1 day per month w/n at HP for field training	Residential Location	TCE (ug/L-M)	Cumulative consumption (total ug= days*concentration per L)	PCE (ug/L-M)(TechRowMP Model)	Cumulative consumption (total ug= days*concentration per L)	PCE (ug/L-M)(MT3DMS Model)	Cumulative consumption (total ug= days*concentration per L)	VC (ug/L-M)	Cumulative consumption (total ug= days*concentration per L)	BZ (ug/L-M)	Cumulative consumption (total ug= days*concentration per L)
1/4/1975-1/31/1975	28	Hadnot Point	Hadnot Point	0.0025	179	1,782	4	40	7	70	3	30													
2/1/1975-2/28/1975	28	Hadnot Point	Hadnot Point	0.0025	252	2,509	6	60	11	110	3	30													
3/1/1975-3/31/1975	31	Hadnot Point	Hadnot Point	0.0025	261	2,877	6	66	11	121	2	22													
4/1/1975-4/30/1975	30	Hadnot Point	Hadnot Point	0.0025	174	1,856	4	43	7	75	3	32													
5/1/1975-5/31/1975	31	Hadnot Point	Hadnot Point	0.0025	211	2,326	5	55	9	99	3	33													
6/1/1975-6/30/1975	30	Hadnot Point	Hadnot Point	0.0025	260	2,774	7	75	11	117	2	21													
7/1/1975-7/28/1975	28	Hadnot Point	Hadnot Point	0.0025	294	2,927	8	80	13	129	3	30													
7/29/1975-7/31/1975	3	Hadnot Point	Tarawa Terrace	0.0025	294	314	8	9	13	14	3	3	7/29/1975-7/31/1975	3	Tarawa Terrac	1.77	4	44	89	62	124	3	6	0	0
8/1/1975-8/31/1975	31	Hadnot Point	Tarawa Terrace	0.0025	368	4,057	10	110	16	176	3	33	8/1/1975-8/31/1975	31	Tarawa Terrac	1.78	37	45	920	62	1286	3	58	0	0
9/1/1975-9/30/1975	30	Hadnot Point	Tarawa Terrace	0.0025	285	3,040	8	85	12	128	3	32	9/1/1975-9/30/1975	30	Tarawa Terrac	1.78	36	45	891	62	1249	3	57	0	0
10/1/1975-10/31/1975	31	Hadnot Point	Tarawa Terrace	0.0025	61	672	1	11	2	22	3	33	10/1/1975-10/31/1975	31	Tarawa Terrac	1.78	37	45	922	63	1295	3	59	0	0
11/1/1975-11/30/1975	30	Hadnot Point	Tarawa Terrace	0.0025	503	5,366	14	149	23	245	3	32	11/1/1975-11/30/1975	30	Tarawa Terrac	1.78	36	45	894	63	1258	3	57	0	0
12/1/1975-12/31/1975	31	Hadnot Point	Tarawa Terrace	0.0025	451	4,972	13	143	20	220	3	33	12/1/1975-12/31/1975	31	Tarawa Terrac	1.78	37	45	925	63	1306	3	60	0	0
1/1/1976-1/31/1976	31	Hadnot Point	Tarawa Terrace	0.0025	227	2,502	7	77	10	110	3	33	1/1/1976-1/31/1976	31	Tarawa Terrac	2.06	43	52	1065	74	1528	3	69	0	0
2/1/1976-2/29/1976	29	Hadnot Point	Tarawa Terrace	0.0025	317	3,269	10	103	14	144	3	31	2/1/1976-2/29/1976	29	Tarawa Terrac	2.15	42	53	1033	75	1449	4	70	0	0
3/1/1976-3/31/1976	31	Hadnot Point	Tarawa Terrace	0.0025	323	3,561	10	110	15	165	2	22	3/1/1976-3/31/1976	31	Tarawa Terrac	2.2	45	54	1125	76	1570	4	77	0	0
4/1/1976-4/30/1976	30	Hadnot Point	Tarawa Terrace	0.0025	212	2,262	6	64	9	96	4	43	4/1/1976-4/30/1976	30	Tarawa Terrac	2.24	45	55	1108	77	1539	4	77	0	0
5/1/1976-5/31/1976	31	Hadnot Point	Tarawa Terrace	0.0025	257	2,833	8	88	12	132	3	33	5/1/1976-5/31/1976	31	Tarawa Terrac	2.28	47	56	1162	78	1612	4	82	0	0
6/1/1976-6/30/1976	30	Hadnot Point	Tarawa Terrace	0.0025	314	3,350	10	107	15	160	3	32	6/1/1976-6/30/1976	30	Tarawa Terrac	2.32	46	57	1141	79	1580	4	82	0	0
7/1/1976-7/31/1976	31	Hadnot Point	Tarawa Terrace	0.0025	348	3,836	12	132	16	176	3	33	7/1/1976-7/31/1976	31	Tarawa Terrac	2.35	49	58	1196	80	1655	4	87	0	0
8/1/1976-8/31/1976	31	Hadnot Point	Tarawa Terrace	0.0025	436	4,806	15	165	20	220	4	44	8/1/1976-8/31/1976	31	Tarawa Terrac	2.39	49	59	1214	81	1677	4	90	0	0
9/1/1976-9/15/1976	0	Hadnot Point	Tarawa Terrace	0.0025	336	1	11	0	16	0	3	0	9/1/1976-9/15/1976	15	Tarawa Terrac	2.43	24	60	596	82	822	4	45	0	0
9/16/1976-9/30/1976	15	Hadnot Point	Tarawa Terrace	0.0025	336	1,793	11	59	16	85	3	16	9/16/1976-9/30/1976	15	Tarawa Terrac	2.43	24	60	596	82	822	4	45	0	0
10/1/1976-10/31/1976	31	Hadnot Point	Tarawa Terrace	0.0025	70	772	2	22	3	33	3	33	10/1/1976-10/31/1976	31	Tarawa Terrac	2.46	51	60	1248	83	1720	5	94	0	0
11/1/1976-11/30/1976	30	Hadnot Point	Tarawa Terrace	0.0025	543	5,793	19	203	26	277	4	43	11/1/1976-11/30/1976	30	Tarawa Terrac	2.5	50	61	1225	84	1686	5	94	0	0
12/1/1976-12/31/1976	31	Hadnot Point	Tarawa Terrace	0.0025	520	5,732	19	209	25	276	3	33	12/1/1976-12/31/1976	31	Tarawa Terrac	2.53	52	62	1283	85	1765	5	99	0	0
1/1/1977-1/31/1977	31	Hadnot Point	Tarawa Terrace	0.0025	249	2,745	9	88	12	132	4	44	1/1/1977-1/31/1977	31	Tarawa Terrac	2.57	53	63	1301	87	1790	5	101	0	0
2/1/1977-2/28/1977	28	Hadnot Point	Tarawa Terrace	0.0025	346	3,445	13	129	17	169	3	30	2/1/1977-2/28/1977	28	Tarawa Terrac	2.62	49	64	1194	88	1637	5	94	0	0
3/1/1977-3/31/1977	31	Hadnot Point	Tarawa Terrace	0.0025	342	3,770	13	143	17	187	2	22	3/1/1977-3/31/1977	31	Tarawa Terrac	2.65	55	65	1339	89	1837	5	106	0	0
4/1/1977	1	Hadnot Point	Tarawa Terrace	0.0025	218	78	8	8	11	4	4	1	4/1/1977	1	Tarawa Terrac	2.70	2	66	44	90	60	5	3	0	0
	804			0.075		84,022		2,640		3,897		858					911		22,510		31,267		1,610		-

1 L concentration summaries	
	1
Assumptions	**days per week**
In field training proportion day	1.000 0.233
residential proportion on field training days	0.000
Routine training proportion day	0.333 6.767
residential proportion on routine training days	0.667
reported only 1 or 2 ON days during entire time per month overnight at HP	
0.0025	proportionate days per month in field overnight

Chart 2: Days on base and cumulative contaminant exposure concentrations- ATSDR informed

Exposure Dates	Total Days	Exposure Location (Work)	HP Exposure Location (residence of base but 1 night per month at HP)	Total days HP exposure in residence or during w/n field training	TCE (ug/L-M)	Cumulative consumption (total ug= days*concentration per L)	PCE (ug/L-M)	Cumulative consumption (total ug= days*concentration per L)	VC (ug/L-M)	Cumulative consumption (total ug= days*concentration per L)	BZ (ug/L-M)	Cumulative consumption (total ug= days*concentration per L)	Exposure Dates	Total Days TT exposure minus 1 day per month w/n at HP for field training	Residential Location	TCE (ug/L-M)	Cumulative consumption (total ug= days*concentration per L)	PCE (ug/L-M)(TechRowMP Model)	Cumulative consumption (total ug= days*concentration per L)	PCE (ug/L-M)(MT3DMS Model)	Cumulative consumption (total ug= days*concentration per L)	VC (ug/L-M)	Cumulative consumption (total ug= days*concentration per L)	BZ (ug/L-M)	Cumulative consumption (total ug= days*concentration per L)
1/4/1975-1/31/1975	28	Hadnot Point	Hadnot Point	0.00	179	7,161	4	352	7	616	3	264													
2/1/1975-2/28/1975	28	Hadnot Point	Hadnot Point	0.00	252	10,082	6	528	11	968	3	264													
3/1/1975-3/31/1975	31	Hadnot Point	Hadnot Point	0.00	261	11,560	6	585	11	1,072	2	195													
4/1/1975-4/30/1975	30	Hadnot Point	Hadnot Point	0.00	174	7,458	4	377	7	660	3	283													
5/1/1975-5/31/1975	31	Hadnot Point	Hadnot Point	0.00	211	9,346	5	487	9	877	3	292													
6/1/1975-6/30/1975	30	Hadnot Point	Hadnot Point	0.00	260	11,145	7	660	11	1,037	2	189													
7/1/1975-7/28/1975	28	Hadnot Point	Hadnot Point	0.00	294	11,762	8	704	13	1,144	3	264													
7/29/1975-7/31/1975	3	Hadnot Point	Tarawa Terrace	0.00	294	1,262	8	75	13	123	3	28	7/29/1975-7/31/1975	3	Tarawa Terrac	2	15	44	381	62	531	3	24	0	0
8/1/1975-8/31/1975	31	Hadnot Point	Tarawa Terrace	0.0025	368	16,300	10	974	16	1,559	3	292	8/1/1975-8/31/1975	31	Tarawa Terrac	2	158	45	3943	62	5513	3	248	0	0
9/1/1975-9/30/1975	30	Hadnot Point	Tarawa Terrace	0.0025	285	12,216	8	754	12	1,131	3	283	9/1/1975-9/30/1975	30	Tarawa Terrac	2	153	45	3820	62	5353	3	243	0	0
10/1/1975-10/31/1975	31	Hadnot Point	Tarawa Terrace	0.0025	61	2,702	1	97	2	195	3	292	10/1/1975-10/31/1975	31	Tarawa Terrac	2	158	45	3952	63	5552	3	252	0	0
11/1/1975-11/30/1975	30	Hadnot Point	Tarawa Terrace	0.0025	503	21,561	14	1,320	23	2,169	3	283	11/1/1975-11/30/1975	30	Tarawa Terrac	2	153	45	3830	63	5393	3	246	0	0
12/1/1975-12/31/1975	31	Hadnot Point	Tarawa Terrace	0.0025	451	19,976	13	1,267	20	1,949	3	292	12/1/1975-12/31/1975	31	Tarawa Terrac	2	158	45	3962	63	5595	3	256	0	0
1/1/1976-1/31/1976	31	Hadnot Point	Tarawa Terrace	0.0025	227	10,054	7	682	10	974	3	292	1/1/1976-1/31/1976	31	Tarawa Terrac	2	182	52	4564	74	6550	3	296	0	0
2/1/1976-2/29/1976	29	Hadnot Point	Tarawa Terrace	0.0025	317	13,135	10	911	14	1,276	3	273	2/1/1976-2/29/1976	29	Tarawa Terrac	2	178	53	4427	75	6209	4	298	0	0
3/1/1976-3/31/1976	31	Hadnot Point	Tarawa Terrace	0.0025	323	14,307	10	974	15	1,461	2	195	3/1/1976-3/31/1976	31	Tarawa Terrac	2	195	54	4821	76	6728	4	329	0	0
4/1/1976-4/30/1976	30	Hadnot Point	Tarawa Terrace	0.0025	212	9,087	6	666	9	849	4	377	4/1/1976-4/30/1976	30	Tarawa Terrac	2	192	55	4746	77	6597	4	330	0	0
5/1/1976-5/31/1976	31	Hadnot Point	Tarawa Terrace	0.0025	257	11,383	8	779	12	1,169	3	292	5/1/1976-5/31/1976	31	Tarawa Terrac	2	202	56	4978	78	6908	4	352	0	0
6/1/1976-6/30/1976	30	Hadnot Point	Tarawa Terrace	0.0025	314	13,459	10	943	15	1,414	3	283	6/1/1976-6/30/1976	30	Tarawa Terrac	2	199	57	4891	79	6773	4	351	0	0
7/1/1976-7/31/1976	31	Hadnot Point	Tarawa Terrace	0.0025	348	15,414	12	1,169	16	1,559	3	292	7/1/1976-7/31/1976	31	Tarawa Terrac	2	208	58	5124	80	7091	4	374	0	0
8/1/1976-8/31/1976	31	Hadnot Point	Tarawa Terrace	0.0025	436	19,312	15	1,461	20	1,949	4	390	8/1/1976-8/31/1976	31	Tarawa Terrac	2	212	59	5201	83	7185	4	384	0	0
9/1/1976-9/15/1976	0	Hadnot Point	Tarawa Terrace	0.0025	336	2	11	0	16	0	3	0	9/1/1976-9/15/1976	15	Tarawa Terrac	2	104	60	2553	82	3521	4	193	0	0
9/16/1976-9/30/1976	15	Hadnot Point	Tarawa Terrace	0.0025	336	7,202	11	519	16	754	3	141	9/16/1976-9/30/1976	15	Tarawa Terrac	2	104	60	2553	82	3521	4	191	0	0
10/1/1976-10/31/1976	31	Hadnot Point	Tarawa Terrace	0.0025	70	3,101	2	195	3	292	3	292	10/1/1976-10/31/1976	31	Tarawa Terrac	2	218	60	5350	83	7373	5	405	0	0
11/1/1976-11/30/1976	30	Hadnot Point	Tarawa Terrace	0.0025	543	23,275	19	1,791	26	2,452	4	377	11/1/1976-11/30/1976	30	Tarawa Terrac	2	214	61	5252	84	7226	5	401	0	0
12/1/1976-12/31/1976	31	Hadnot Point	Tarawa Terrace	0.0025	520	23,032	19	1,851	25	2,436	3	292	12/1/1976-12/31/1976	31	Tarawa Terrac	3	224	62	5500	85	7564	5	424	0	0
1/1/1977-1/31/1977	31	Hadnot Point	Tarawa Terrace	0.0025	249	11,029	9	877	12	1,169	4	390	1/1/1977-1/31/1977	31	Tarawa Terrac	3	228	63	5577	87	7671	5	433	0	0
2/1/1977-2/28/1977	28	Hadnot Point	Tarawa Terrace	0.0025	346	13,842	13	1,144	17	1,496	3	264	2/1/1977-2/28/1977	28	Tarawa Terrac	3	210	64	5118	88	7015	5	401	0	0
3/1/1977-3/31/1977	31	Hadnot Point	Tarawa Terrace	0.0025	342	15,148	13	1,267	17	1,656	2	195	3/1/1977-3/31/1977	31	Tarawa Terrac	3	235	65	5740	89	7874	5	453	0	0
4/1/1977	1	Hadnot Point	Tarawa Terrace	0.0025	218	313	8	25	11	35	4	13	4/1/1977	1	Tarawa Terrac	3	8	66	188	90	257	5	15	0	0
	804			0.075		345,628		23,327		34,441		7,581					3,905		96,472		134,002		6,899		-

ATSDR ingestion 6L/day 3 days per week	Days	ATSDR ingestion 6L/day 3 days per week and 3L per day 4 days per week	Days
6	3	3	4

Chart 3: Days on base and cumulative contaminant exposure concentrations- deposition informed activities and FM 1957-1983 averaged

Exposure Dates	Total Days	Exposure Location (Work)	HP Exposure Location (residence of baseabut 1 night per month at HP)	Total days HP exposure in residence or dusting s/h field training	TCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	PCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	VC (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	BZ (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	Exposure Dates	Total Days TT exposure minus 1 day per month o/s at HP for field training	Residential Location	TCE (ug/L-M)	Cumulative consumption (total ug= days*concentration per L)	PCE (ug/l-M)(TechRiowMP Model)	Cumulative consumption (total ug= days*concentration per L)	PCE (ug/l-M)(MT3DMS Model)	Cumulative consumption (total ug= days*concentration per L)	VC (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	BZ (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	ATSDR defaults-exercised regulary; PM average 1957-1983; moderate day: desert/tropical <80oF	Days	ATSDR defaults; PM average 1957-1983; moderate day: desert/tropical <80oF	Days
1/4/1975-1/31/1975	28	Hadnot Point	Hadnot Point	0.0025	179	11,069	4	520	7	910	3	390															8.517177	3	5.2049435	4
2/1/1975-2/28/1975	28	Hadnot Point	Hadnot Point	0.0025	252	15,584	6	780	11	1,430	3	390																		
3/1/1975-3/31/1975	31	Hadnot Point	Hadnot Point	0.0025	261	17,869	6	863	11	1,583	2	288																		
4/1/1975-4/30/1975	30	Hadnot Point	Hadnot Point	0.0025	174	11,529	4	557	7	975	3	418																		
5/1/1975-5/31/1975	31	Hadnot Point	Hadnot Point	0.0025	211	14,446	5	719	9	1,295	3	432																		
6/1/1975-6/30/1975	30	Hadnot Point	Hadnot Point	0.0025	260	17,226	7	975	11	1,532	2	279																		
7/1/1975-7/28/1975	28	Hadnot Point	Hadnot Point	0.0025	294	18,181	8	1,040	13	1,690	3	390																		
7/29/1975-7/31/1975	3	Hadnot Point	Tarawa Terrace	0.0025	294	1,951	8	111	13	181	3	42	7/29/1975-7/31/1975	3	Tarawa Terrac	2	23	44	588	62	821	3	37	0	0				
8/1/1975-8/31/1975	31	Hadnot Point	Tarawa Terrace	0.0025	368	25,195	10	1,439	16	2,302	3	432	8/1/1975-8/31/1975	31	Tarawa Terrac	2	244	45	6095	62	8522	3	385	0	0				
9/1/1975-9/30/1975	30	Hadnot Point	Tarawa Terrace	0.0025	285	18,883	8	1,114	12	1,671	3	418	9/1/1975-9/30/1975	30	Tarawa Terrac	2	236	45	5905	62	8275	3	375	0	0				
10/1/1975-10/31/1975	31	Hadnot Point	Tarawa Terrace	0.0025	61	4,176	1	144	2	288	3	432	10/1/1975-10/31/1975	31	Tarawa Terrac	2	244	45	6108	63	8582	3	390	0	0				
11/1/1975-11/30/1975	30	Hadnot Point	Tarawa Terrace	0.0025	503	33,327	14	1,950	23	3,203	3	418	11/1/1975-11/30/1975	30	Tarawa Terrac	2	236	45	5920	63	8336	3	380	0	0				
12/1/1975-12/31/1975	31	Hadnot Point	Tarawa Terrace	0.0025	451	30,877	13	1,871	20	2,878	3	432	12/1/1975-12/31/1975	31	Tarawa Terrac	2	244	45	6125	63	8649	3	396	0	0				
1/1/1976-1/31/1976	31	Hadnot Point	Tarawa Terrace	0.0025	227	15,541	7	1,007	10	1,439	3	432	1/1/1976-1/31/1976	31	Tarawa Terrac	2	282	52	7054	74	10125	3	457	0	0				
2/1/1976-2/29/1976	29	Hadnot Point	Tarawa Terrace	0.0025	317	20,303	10	1,348	14	1,885	3	404	2/1/1976-2/29/1976	29	Tarawa Terrac	2	275	53	6842	75	9597	4	461	0	0				
3/1/1976-3/31/1976	31	Hadnot Point	Tarawa Terrace	0.0025	323	22,114	10	1,439	15	2,158	2	288	3/1/1976-3/31/1976	31	Tarawa Terrac	2	301	54	7453	76	10400	4	509	0	0				
4/1/1976-4/30/1976	30	Hadnot Point	Tarawa Terrace	0.0025	212	14,046	6	836	9	1,253	4	557	4/1/1976-4/30/1976	30	Tarawa Terrac	2	297	55	7337	77	10197	4	510	0	0				
5/1/1976-5/31/1976	31	Hadnot Point	Tarawa Terrace	0.0025	257	17,595	8	1,151	12	1,727	3	432	5/1/1976-5/31/1976	31	Tarawa Terrac	2	312	56	7695	78	10678	4	545	0	0				
6/1/1976-6/30/1976	30	Hadnot Point	Tarawa Terrace	0.0025	314	20,804	10	1,393	15	2,089	3	418	6/1/1976-6/30/1976	30	Tarawa Terrac	2	307	57	7561	79	10468	4	543	0	0				
7/1/1976-7/31/1976	31	Hadnot Point	Tarawa Terrace	0.0025	348	23,825	12	1,727	16	2,302	3	432	7/1/1976-7/31/1976	31	Tarawa Terrac	2	322	58	7921	80	10961	4	576	0	0				
8/1/1976-8/31/1976	31	Hadnot Point	Tarawa Terrace	0.0025	436	29,850	15	2,158	20	2,878	4	576	8/1/1976-8/31/1976	31	Tarawa Terrac	2	327	59	8040	81	11106	4	594	0	0				
9/1/1976-9/15/1976	0	Hadnot Point	Tarawa Terrace	0.0025	336	4	11	0	16	0	3	0	9/1/1976-9/15/1976	15	Tarawa Terrac	2	161	60	3946	82	5442	4	295	0	0				
9/16/1976-9/30/1976	15	Hadnot Point	Tarawa Terrace	0.0025	336	11,133	11	766	16	1,114	3	209	9/16/1976-9/30/1976	15	Tarawa Terrac	2	161	60	3946	82	5442	4	295	0	0				
10/1/1976-10/31/1976	31	Hadnot Point	Tarawa Terrace	0.0025	70	4,792	2	288	3	432	3	432	10/1/1976-10/31/1976	31	Tarawa Terrac	2	337	60	8270	83	11396	5	626	0	0				
11/1/1976-11/30/1976	30	Hadnot Point	Tarawa Terrace	0.0025	543	35,977	19	2,646	26	3,621	4	557	11/1/1976-11/30/1976	30	Tarawa Terrac	3	331	61	8118	84	11169	5	620	0	0				
12/1/1976-12/31/1976	31	Hadnot Point	Tarawa Terrace	0.0025	520	35,601	19	2,734	25	3,597	3	432	12/1/1976-12/31/1976	31	Tarawa Terrac	3	346	62	8501	85	11692	5	656	0	0				
1/1/1977-1/31/1977	31	Hadnot Point	Tarawa Terrace	0.0025	249	17,048	9	1,295	12	1,727	4	576	1/1/1977-1/31/1977	31	Tarawa Terrac	3	352	63	8620	87	11856	5	669	0	0				
2/1/1977-2/28/1977	28	Hadnot Point	Tarawa Terrace	0.0025	346	21,396	13	1,690	17	2,210	3	390	2/1/1977-2/28/1977	28	Tarawa Terrac	3	324	64	7911	88	10844	5	619	0	0				
3/1/1977-3/31/1977	31	Hadnot Point	Tarawa Terrace	0.0025	342	23,415	13	1,871	17	2,446	2	288	3/1/1977-3/31/1977	31	Tarawa Terrac	3	363	65	8872	89	12171	5	700	0	0				
4/1/1977	1	Hadnot Point	Tarawa Terrace	0.0025	218	484	8	37	11	51	4	19	28216	1	Tarawa Terrac	3	12	66	291	90	398	5	23	0	0				
	804			0.075		534,241		34,466		50,865		11,196					6,036		140,118		207,128		10,663		-				

Summed variable totals

		Chart 1: 1L	Chart 2: ATSDR	Chart 3: Deposition/FM
	Cumulative ug/l-M	Cumulative consumption (total ug= days*concentration per L)	Cumulative consumption (total ug= days*concentration per ATSDR exposure assumptions)	Cumulative consumption (total ug= days*concentration per deposition/FM exposure assumptions)
Hadnot Point				
TCE	8,357	86,022	345,628	534,241
PCE	258	2,640	23,337	34,466
VC	380	3,897	34,441	50,865
BZ	85	858	7,581	11,196
Terawa Terrace				
TCE	46	911	3,905	6,036
PCE (TechFlowMP Model)	1,147	22,510	96,472	149,118
PCE (MT3DMS Model)	1,594	31,267	134,002	207,128
VC	82	1,610	6,899	10,663
BZ	-	-	-	-
Totals HP & TT				
TCE	8,403	86,933	349,534	540,278
PCE (TechFlowMP Model)	1,405	25,151	119,809	183,584
PCE (MT3DMS Model)	1,852	33,908	157,339	241,594
VC	462	5,507	41,339	61,528
BZ	85	858	7,581	11,196

Appendix 3

Terry Dyer (Bladder Cancer)

Exposure Dates	Total Days	Hadnot Point (Recreational Exposure)	Residential Location (Tarawa Terrace/Jacksonville)	TCE (ug/l-M)	PCE (ug/l-M)	VC (ug/l-M)	BZ (ug/l-M)
5/5/1958-05/31/1958	31	Hadnot Point	3200 Guam Drive	14	0	0	0
6/1/1958-06/30/1958	30	Hadnot Point	3200 Guam Drive	12	0	0	0
7/1/1958-07/31/1958	31	Hadnot Point	3200 Guam Drive	13	0	0	0
8/1/1958-8/31/1958	31	Hadnot Point	3200 Guam Drive	18	0	0	0
9/1/1958-9/30/1958	30	Hadnot Point	3200 Guam Drive	15	0	0	0
10/1/1958-10/31/1958	31	Hadnot Point	3200 Guam Drive	13	0	0	0
11/1/1958-11/30/1958	30	Hadnot Point	3200 Guam Drive	22	0	0	0
12/1/1958-12/31/1958	31	Hadnot Point	3200 Guam Drive	17	0	0	0
1/1/1959-1/31/1959	31	Hadnot Point	3200 Guam Drive	18	0	0	0
2/1/1959-2/28/1959	28	Hadnot Point	3200 Guam Drive	13	0	0	0
3/1/1959-3/31/1958	31	Hadnot Point	3200 Guam Drive	9	0	0	0
4/1/1959-4/30/1959	30	Hadnot Point	3200 Guam Drive	19	0	0	0
5/1/1959-5/31/1959	31	Hadnot Point	3200 Guam Drive	14	0	0	0
6/1/1959-6/30/1959	30	Hadnot Point	3200 Guam Drive/3500 Chosin Circle	13	0	0	0
7/1/1959-7/31/1959	31	Hadnot Point	3500 Chosin Circle	13	0	0	0
8/1/1959-8/31/1959	31	Hadnot Point	3500 Chosin Circle	18	0	0	0
9/1/1959-9/30/1959	30	Hadnot Point	3500 Chosin Circle	15	0	0	0
10/1/1959-10/31/1959	31	Hadnot Point	3500 Chosin Circle	14	0	0	0
11/1/1959-11/30/1959	30	Hadnot Point	3500 Chosin Circle	22	0	0	0
12/1/1959-12/31/1959	31	Hadnot Point	3500 Chosin Circle	17	0	0	0
1/1/1960-1/31/1960	31	Hadnot Point	3500 Chosin Circle	16	0	0	0
2/1/1960-2/29/1960	29	Hadnot Point	3500 Chosin Circle	11	0	0	0
3/1/1960-3/31/1960	31	Hadnot Point	3500 Chosin Circle	9	0	0	0
04/02/1960-4/30/1960	30	Hadnot Point	3500 Chosin Circle	16	0	0	0
5/1/1960-5/31/1960	31	Hadnot Point	3500 Chosin Circle	13	0	0	0
6/1/1960-6/30/1960	30	Hadnot Point	3500 Chosin Circle	12	0	0	0
7/1/1960-7/31/1960	31	Hadnot Point	3500 Chosin Circle	12	0	0	0
8/1/1960-8/31/1960	31	Hadnot Point	3500 Chosin Circle	15	0	0	0
9/1/1960-9/30/1960	30	Hadnot Point	3500 Chosin Circle	14	0	0	0
10/1/1960-10/31/1960	31	Hadnot Point	3500 Chosin Circle	13	0	0	0
11/1/1960-11/30/1960	30	Hadnot Point	3500 Chosin Circle	18	0	0	0
12/1/1960-12/31/1960	31	Hadnot Point	3500 Chosin Circle	14	0	0	0
1/1/1961-1/31/1961	31	Hadnot Point	3500 Chosin Circle	16	0	0	0
2/1/1961-2/28/1961	28	Hadnot Point	3500 Chosin Circle	12	0	0	0
3/1/1961-3/31/1961	31	Hadnot Point	3500 Chosin Circle	10	0	0	0
4/1/1961-4/30/1961	30	Hadnot Point	3500 Chosin Circle	18	0	0	0
5/1/1961-5/31/1961	31	Hadnot Point	3500 Chosin Circle	15	0	0	0

6/1/1961-6/30/1961	30	Hadnot Point	3500 Chosin Circle	14	0	0	0
7/1/1961-7/31/1961	31	Hadnot Point	3500 Chosin Circle	14	0	0	0
8/1/1961-8/31/1961	31	Hadnot Point	3500 Chosin Circle	19	0	0	0
9/1/1961-9/30/1961	30	Hadnot Point	3500 Chosin Circle	17	0	0	0
10/1/1961-10/31/1961	31	Hadnot Point	3500 Chosin Circle	17	0	0	0
11/1/1961-11/30/1961	30	Hadnot Point	3500 Chosin Circle	19	0	0	0
12/1/1961-12/31/1961	31	Hadnot Point	3500 Chosin Circle	15	0	0	0
1/1/1962-1/31/1962	31	Hadnot Point	3500 Chosin Circle	16	0	0	0
2/1/1961-2/28/1962	28	Hadnot Point	3500 Chosin Circle	14	0	0	0
3/1/1962-3/31/1962	31	Hadnot Point	3500 Chosin Circle	12	0	0	0
4/1/1962-4/30/1962	30	Hadnot Point	3500 Chosin Circle	19	0	0	0
5/1/1962-5/31/1962	31	Hadnot Point	3500 Chosin Circle	16	0	0	0
6/1/1962-6/30/1962	30	Hadnot Point	3500 Chosin Circle	15	0	0	0
7/1/1962-7/31/1962	31	Hadnot Point	3500 Chosin Circle	16	0	0	0
8/1/1962-8/31/1962	31	Hadnot Point	3500 Chosin Circle	21	0	0	0
9/1/1962-9/30/1962	30	Hadnot Point	3500 Chosin Circle	18	0	0	0
10/1/1962-10/31/1962	31	Hadnot Point	3500 Chosin Circle	19	0	0	0
11/1/1962-11/30/1962	30	Hadnot Point	3500 Chosin Circle	22	0	0	1
12/1/1962-12/31/1962	31	Hadnot Point	3500 Chosin Circle	20	0	0	0
1/1/1963-1/31/1963	31	Hadnot Point	3500 Chosin Circle	20	0	0	0
2/1/1963-2/28/1963	28	Hadnot Point	3500 Chosin Circle	20	0	0	0
3/1/1963-3/31/1963	31	Hadnot Point	3500 Chosin Circle	17	0	0	0
4/1/1963-4/30/1963	30	Hadnot Point	3500 Chosin Circle	24	0	0	1
5/1/1963-5/31/1963	31	Hadnot Point	3500 Chosin Circle	19	0	0	0
6/1/1963-6/30/1963	30	Hadnot Point	3500 Chosin Circle	19	0	0	0
7/1/1963-7/31/1963	31	Hadnot Point	3500 Chosin Circle	19	0	0	0
8/1/1963-8/31/1963	31	Hadnot Point	3500 Chosin Circle	24	0	0	1
9/1/1963-9/30/1963	30	Hadnot Point	3500 Chosin Circle	21	0	0	0
10/01/1963-10/31/1963	31	Hadnot Point	3500 Chosin Circle	22	0	0	0
11/01/1963-11/30/1963	30	Hadnot Point	3500 Chosin Circle	24	0	0	1
12/1/1963-12/31/1963	31	Hadnot Point	3500 Chosin Circle	21	0	0	1
1/1/1964-1/31/1964	31	Hadnot Point	3500 Chosin Circle	22	0	0	1
2/1/1964-2/29/1964	29	Hadnot Point	3500 Chosin Circle	21	0	0	0
3/1/1964-3/31/1964	31	Hadnot Point	3500 Chosin Circle	18	0	0	0
4/1/1964-4/30/1964	30	Hadnot Point	3500 Chosin Circle	25	0	0	1
5/1/1964-5/31/1964	31	Hadnot Point	3500 Chosin Circle	21	0	0	1
6/1/1964; 6/2/1964-6/30/1964	30	Hadnot Point	3500 Chosin Circle/1009 Daniel Drive (Jacksonville)	20	0	0	0
7/1/1964-7/31/1964	31	Hadnot Point	1009 Daniel Drive (Jacksonville)	21	0	0	0
8/1/1964-8/31/1964	31	Hadnot Point	1009 Daniel Drive (Jacksonville)	25	0	0	1

9/1/1964-9/30/1964	30	Hadnot Point	1009 Daniel Drive (Jacksonville)	22	0	0	1
10/1/1964-10/31/1964	31	Hadnot Point	1009 Daniel Drive (Jacksonville)	24	0	0	1
11/1/1964-11/30/1964	30	Hadnot Point	1009 Daniel Drive (Jacksonville)	25	0	0	1
12/1/1964-12/31/1964	31	Hadnot Point	1009 Daniel Drive (Jacksonville)	23	0	0	1
1/1/1965-1/31/1965	31	Hadnot Point	1009 Daniel Drive (Jacksonville)	22	0	0	1
2/1/1965-2/28/1965	28	Hadnot Point	1009 Daniel Drive (Jacksonville)	23	0	0	1
3/1/1965-3/31/1964	31	Hadnot Point	1009 Daniel Drive (Jacksonville)	19	0	0	0
4/1/1964-4/30/1964	30	Hadnot Point	1009 Daniel Drive (Jacksonville)	25	0	0	1
5/1/1965-5/12/1965; 5/13/1965-5/31/1965	31	Hadnot Point	1009 Daniel Drive (Jacksonville)/3331 Hagaru Drive	26	0	0	1
6/1/1965-6/30/1965	30	Hadnot Point	3331 Hagaru Drive	21	0	0	1
7/1/1965-7/31/1965	31	Hadnot Point	3331 Hagaru Drive	21	0	0	1
8/1/1965-8/31/1965	31	Hadnot Point	3331 Hagaru Drive	21	0	0	1
9/1/1965-9/30/1965	30	Hadnot Point	3331 Hagaru Drive	25	0	0	1
10/1/1965-10/31/1965	31	Hadnot Point	3331 Hagaru Drive	22	0	0	1
11/1/1965-11/30/1965	30	Hadnot Point	3331 Hagaru Drive	23	0	0	1
12/1/1965-12/31/1965	31	Hadnot Point	3331 Hagaru Drive/3424 Hagaru Drive	21	0	0	1
1/1/1966-1/31/1966	31	Hadnot Point	3424 Hagaru Drive	21	0	0	1
2/1/1966-2/28/1966	28	Hadnot Point	3424 Hagaru Drive	22	0	0	1
3/1/1966-3/31/1966	31	Hadnot Point	3424 Hagaru Drive	19	0	0	0
4/1/1966-4/30/1966	30	Hadnot Point	3424 Hagaru Drive	26	0	0	1
5/1/1966-5/31/1966	31	Hadnot Point	3424 Hagaru Drive	21	0	0	1
6/1/1966-6/30/1966	30	Hadnot Point	3424 Hagaru Drive	21	0	0	1
7/1/1966-7/31/1966	31	Hadnot Point	3424 Hagaru Drive	21	0	0	1
8/1/1966-8/31/1966	31	Hadnot Point	3424 Hagaru Drive	26	0	0	1
9/1/1966-9/30/1966	30	Hadnot Point	3424 Hagaru Drive	23	0	0	1
10/1/1966-10/31/1966	31	Hadnot Point	3424 Hagaru Drive	25	0	0	1
11/1/1966-11/30/1966	30	Hadnot Point	3424 Hagaru Drive	26	0	0	1
12/1/1966-12/31/1966	31	Hadnot Point	3424 Hagaru Drive	26	0	0	1
1/1/1967-1/31/1967	31	Hadnot Point	3424 Hagaru Drive	25	0	0	1
2/1/1967-2/28/1967	28	Hadnot Point	3424 Hagaru Drive	26	0	0	1
3/1/1967-3/31/1967	31	Hadnot Point	3424 Hagaru Drive	23	0	0	1
4/1/1967-4/30/1967	30	Hadnot Point	3424 Hagaru Drive	30	0	0	1
5/1/1967-5/31/1967	31	Hadnot Point	3424 Hagaru Drive	24	0	0	1
6/1/1967-6/30/1967	30	Hadnot Point	3424 Hagaru Drive	24	0	0	1
7/1/1967-7/31/1967	31	Hadnot Point	3424 Hagaru Drive	25	0	0	1
8/1/1967-8/31/1967	31	Hadnot Point	3424 Hagaru Drive	31	0	0	1
9/1/1967-9/30/1967	30	Hadnot Point	3424 Hagaru Drive	26	0	0	1
10/1/1967-10/31/1967	31	Hadnot Point	3424 Hagaru Drive	29	0	0	1
11/1/1967-11/30/1967	30	Hadnot Point	3424 Hagaru Drive	29	0	0	1

12/1/1967-12/31/1967	31	Hadnot Point	3424 Hagaru Drive	28	0	0	1
1/1/1968-1/31/1968	31	Hadnot Point	3424 Hagaru Drive	27	0	0	1
2/1/1968-2/29/1968	29	Hadnot Point	3424 Hagaru Drive	26	0	0	1
3/1/1968-3/31/1968	31	Hadnot Point	3424 Hagaru Drive	23	0	0	1
4/1/1968-4/30/1968	30	Hadnot Point	3424 Hagaru Drive	30	0	0	1
5/1/1968-5/31/1968	31	Hadnot Point	3424 Hagaru Drive	24	0	0	1
6/1/1968-6/30/1968	30	Hadnot Point	3424 Hagaru Drive	24	0	0	1
7/1/1968-7/31/1968	31	Hadnot Point	3424 Hagaru Drive	25	0	0	1
8/1/1968-8/31/1968	31	Hadnot Point	3424 Hagaru Drive	32	0	0	1
9/1/1968-9/30/1968	30	Hadnot Point	3424 Hagaru Drive	28	0	0	1
10/1/1968-10/31/1968	31	Hadnot Point	3424 Hagaru Drive	31	0	0	1
11/1/1968-11/30/1968	30	Hadnot Point	3424 Hagaru Drive	31	0	0	2
12/1/1968-12/31/1968	31	Hadnot Point	3424 Hagaru Drive	29	0	0	1
1/1/1969-1/31/1969	31	Hadnot Point	3424 Hagaru Drive	28	0	0	1
2/1/1969-2/28/1969	28	Hadnot Point	3424 Hagaru Drive	28	0	0	1
3/1/1969-3/31/1969	31	Hadnot Point	3424 Hagaru Drive	23	0	0	1
4/1/1969-4/30/1969	30	Hadnot Point	3424 Hagaru Drive	32	0	0	2
5/1/1969-5/31/1969	31	Hadnot Point	3424 Hagaru Drive	26	0	0	1
6/1/1969-6/30/1969	30	Hadnot Point	3424 Hagaru Drive	26	0	0	1
7/1/1969-7/31/1969	31	Hadnot Point	3424 Hagaru Drive	24	0	0	1
8/1/1969-8/31/1969	31	Hadnot Point	3424 Hagaru Drive	18	0	0	1
9/1/1969-9/30/1969	30	Hadnot Point	3424 Hagaru Drive	8	0	0	1
10/01/1969-10/31/1969	31	Hadnot Point	3424 Hagaru Drive	8	0	0	1
11/1/1969-11/30/1969	30	Hadnot Point	3424 Hagaru Drive	24	0	0	2
12/1/1969-12/31/1969	31	Hadnot Point	3424 Hagaru Drive	24	0	0	2
1/1/1970-1/31/1970	31	Hadnot Point	3424 Hagaru Drive	23	0	0	2
2/1/1970-2/28/1970	28	Hadnot Point	3424 Hagaru Drive	23	0	0	2
3/1/1970-3/31/1970	31	Hadnot Point	3424 Hagaru Drive	19	0	0	1
4/1/1970-4/30/1970	30	Hadnot Point	3424 Hagaru Drive	26	0	0	2
5/1/1970-5/31/1970	31	Hadnot Point	3424 Hagaru Drive	20	0	0	2
6/1/1970-6/30/1970	30	Hadnot Point	3424 Hagaru Drive	20	0	0	2
7/1/1970-7/31/1970	31	Hadnot Point	3424 Hagaru Drive	20	0	0	2
8/1/1970-8/31/1970	31	Hadnot Point	3424 Hagaru Drive	24	0	0	2
9/1/1970-9/30/1970	30	Hadnot Point	3424 Hagaru Drive	21	0	0	2
10/1/1970-10/31/1970	31	Hadnot Point	3424 Hagaru Drive	23	0	0	2
11/1/1970-11/30/1970	30	Hadnot Point	3424 Hagaru Drive	25	0	0	3
12/1/1970-12/31/1970	31	Hadnot Point	3424 Hagaru Drive	22	0	0	2
1/1/1971-1/31/1971	31	Hadnot Point	3424 Hagaru Drive	22	0	0	2
2/1/1971-2/28/1971	28	Hadnot Point	3424 Hagaru Drive	21	0	0	2
3/1/1971-3/31/1971	31	Hadnot Point	3424 Hagaru Drive	17	0	0	2

4/1/1971-4/30/1971	30	Hadnot Point	3424 Hagaru Drive	24	0	0	3
5/1/1971-5/31/1971	31	Hadnot Point	3424 Hagaru Drive	19	0	0	2
6/1/1971-6/30/1971	30	Hadnot Point	3424 Hagaru Drive	19	0	0	2
7/1/1971-7/31/1971	31	Hadnot Point	3424 Hagaru Drive	19	0	0	2
8/1/1971-8/31/1971	31	Hadnot Point	3424 Hagaru Drive	24	0	0	3
9/1/1971-9/30/1971	30	Hadnot Point	3424 Hagaru Drive	21	0	0	2
10/1/1971-10/31/1971	31	Hadnot Point	3424 Hagaru Drive	22	0	0	2
11/1/1971-11/30/1971	31	Hadnot Point	3424 Hagaru Drive	25	0	0	3
12/1/1971-12/31/1971	31	Hadnot Point	3424 Hagaru Drive	22	0	0	3
1/1/1972-1/31/1972	31	Hadnot Point	3424 Hagaru Drive	22	0	0	3
2/1/1972-2/29/1972	29	Hadnot Point	3424 Hagaru Drive	21	0	0	2
3/1/1972-3/31/1972	31	Hadnot Point	3424 Hagaru Drive	17	0	0	2
4/1/1972-4/30/1972	30	Hadnot Point	3424 Hagaru Drive	24	0	0	3
5/1/1972-5/31/1972	31	Hadnot Point	3424 Hagaru Drive	19	0	0	3
6/1/1972-6/30/1972	30	Hadnot Point	3424 Hagaru Drive	19	0	0	3
7/1/1972-7/31/1972	31	Hadnot Point	3424 Hagaru Drive	16	0	0	2
8/1/1972-8/31/1972	31	Hadnot Point	3424 Hagaru Drive	20	0	1	3
9/1/1972-9/30/1972	30	Hadnot Point	3424 Hagaru Drive	18	0	1	2
10/1/1972-10/31/1972	31	Hadnot Point	3424 Hagaru Drive	18	0	0	3
11/1/1972-11/30/1972	30	Hadnot Point	3424 Hagaru Drive	25	0	3	3
12/1/1972-12/31/1972	31	Hadnot Point	3424 Hagaru Drive	32	0	3	2
1/1/1973-1/16/1973	16	Hadnot Point	3424 Hagaru Drive	27	0	2	3
*Areas color coded red reflect off base residential exposure.	5376			3647	0	10	161

Summed variable totals

		Chart 1: 1L	Chart 2: ATSDR RME	Chart 3: ATSDR CTE	Chart 4: ATSDR RME; deposition ingestion age 6+
	Cumulative ug/l-M	Cumulative consumption (total ug= days*concentration per L)	Cumulative consumption (total ug= days*concentration per ATSDR exposure assumptions)	Cumulative consumption (total ug= days*concentration per deposition/FM exposure assumptions)	Cumulative consumption (total ug= days*concentration per deposition/FM exposure assumptions)
Hadnot Point					
TCE	3,608	26,042	40,097	13,871	93,536
PCE	-	-	14,049	4,772	35,403
VC	10	66	-	-	-
BZ	161	1,157	40,097	13,871	93,536
Terawa Terrace					
TCE	317	7,258	3,783	3,783	24,544
PCE (TechFlowMP Model)	7,518	172,268	90,529	90,529	595,062
PCE (MT3DMS Model)	9,236	211,660	110,277	110,277	715,375
VC	612	14,050	6,948	6,948	41,177
BZ	-	-	-	-	-
Totals HP & TT					
TCE		33,300	50,956	17,655	118,080
PCE (TechFlowMP Model)		172,268	274,503	95,301	630,465
PCE (MT3DMS Model)		211,660	330,565	115,049	750,778
VC		14,116	19,632	6,948	41,177
BZ		1,157	40,097	13,871	93,536

Appendix 4

Jimmy Laramore (Bladder Cancer)

Exposure Dates		Total Days	Exposure Location (Work)	TCE (ug/l-M)		PCE (ug/l-M)		VC (ug/l-M)		BZ (ug/l-M)		
12/10/1983-12/31/1983		22	Hadnot Point	688		34		59		9		
1/1/1984-1/31/1984		31	Hadnot Point	427		21		36		11		
2/1/1984-2/29/1984		29	Hadnot Point	560		27		47		8		
3/1/1984-3/31/1984		31	Hadnot Point	587		28		50		7		
4/1/1984-4/30/1984		30	Hadnot Point	400		18		33		12		
5/1/1984-5/31/1984		31	Hadnot Point	491		23		42		10		
6/1/1984-6/30/1984		30	Hadnot Point	471		22		41		7		
7/1/1984-7/31/1984		31	Hadnot Point	507		24		45		7		
8/1/1984-8/31/1984		31	Hadnot Point	539		26		48		8		
9/1/1984-9/30/1984		30	Hadnot Point	443		21		39		8		
10/1/1984-10/31/1984		31	Hadnot Point	94		3		6		8		
11/1/1984-11/30/1984		30	Hadnot Point	639		31		59		8		
12/1/1984-12/17/1984		17	Hadnot Point	43		2		4		2		
		374		**5,889**		**280**		**509**		**105**		

*marine in training

Chart 1: Days on base and cumulative contaminant exposure concentrations (1 L consumption per day)

Exposure Dates		Total Days	Exposure Location (Work)	TCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	PCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	VC (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	BZ (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	1L concentration summaries
12/10/1983-12/31/1983		22	Hadnot Point	688	15136	34	748	59	1298	9	198	**1**
1/1/1984-1/31/1984		31	Hadnot Point	427	13237	21	651	36	1116	11	341	
2/1/1984-2/29/1984		29	Hadnot Point	560	16240	27	783	47	1363	8	232	
3/1/1984-3/31/1984		31	Hadnot Point	587	18197	28	868	50	1550	7	217	
4/1/1984-4/30/1984		30	Hadnot Point	400	12000	18	540	33	990	12	360	
5/1/1984-5/31/1984		31	Hadnot Point	491	15221	23	713	42	1302	10	310	
6/1/1984-6/30/1984		30	Hadnot Point	471	14130	22	660	41	1230	7	210	
7/1/1984-7/31/1984		31	Hadnot Point	507	15717	24	744	45	1395	7	217	
8/1/1984-8/31/1984		31	Hadnot Point	539	16709	26	806	48	1488	8	248	
9/1/1984-9/30/1984		30	Hadnot Point	443	13290	21	630	39	1170	8	240	
10/1/1984-10/31/1984		31	Hadnot Point	94	2914	3	93	6	186	8	248	
11/1/1984-11/30/1984		30	Hadnot Point	639	19170	31	930	59	1770	8	240	
12/1/1984-12/17/1984		17	Hadnot Point	43	731	2	34	4	68	2	34	
		374		**5,889**	**172,692**	**280**	**8,200**	**509**	**14,926**	**105**	**3,095**	

Chart 2: ATSDR marine in training (4.334 L consumption per day)

Exposure Dates		Total Days	Exposure Location (Work)	TCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	PCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	VC (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	BZ (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	ATSDR marine in training
12/10/1983-12/31/1983		22	Hadnot Point	688	65599	34	3242	59	5626	9	858	**4.334**
1/1/1984-1/31/1984		31	Hadnot Point	427	57369	21	2821	36	4837	11	1478	
2/1/1984-2/29/1984		29	Hadnot Point	560	70384	27	3394	47	5907	8	1005	
3/1/1984-3/31/1984		31	Hadnot Point	587	78866	28	3762	50	6718	7	940	
4/1/1984-4/30/1984		30	Hadnot Point	400	52008	18	2340	33	4291	12	1560	
5/1/1984-5/31/1984		31	Hadnot Point	491	65968	23	3090	42	5643	10	1344	
6/1/1984-6/30/1984		30	Hadnot Point	471	61239	22	2860	41	5331	7	910	
7/1/1984-7/31/1984		31	Hadnot Point	507	68117	24	3224	45	6046	7	940	
8/1/1984-8/31/1984		31	Hadnot Point	539	72417	26	3493	48	6449	8	1075	
9/1/1984-9/30/1984		30	Hadnot Point	443	57599	21	2730	39	5071	8	1040	
10/1/1984-10/31/1984		31	Hadnot Point	94	12629	3	403	6	806	8	1075	
11/1/1984-11/30/1984		30	Hadnot Point	639	83083	31	4031	59	7671	8	1040	
12/1/1984-12/17/1984		17	Hadnot Point	43	3168	2	147	4	295	2	147	
		374		**5,889**	**748,447**	**280**	**35,539**	**509**	**64,689**	**105**	**13,414**	

Chart 3: Days on base and cumulative contaminant exposure concentrations- deposition informed ingestion activities

Exposure Dates		Total Days	Exposure Location (Work)	TCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	PCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	VC (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	BZ (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	Deposition informed ingestion volume

Exposure estimate 3 days per week in field training:

12/10/1983-12/31/1983	22	Hadnot Point	688	53715	34	2655	59	4606	9	703	3.54882
1/1/1984-1/31/1984	31	Hadnot Point	427	46976	21	2310	36	3960	11	1210	
2/1/1984-2/29/1984	29	Hadnot Point	560	57633	27	2779	47	4837	8	823	
3/1/1984-3/31/1984	31	Hadnot Point	587	64578	28	3080	50	5501	7	770	
4/1/1984-4/30/1984	30	Hadnot Point	400	42586	18	1916	33	3513	12	1278	
5/1/1984-5/31/1984	31	Hadnot Point	491	54017	23	2530	42	4621	10	1100	
6/1/1984-6/30/1984	30	Hadnot Point	471	50145	22	2342	41	4365	7	745	
7/1/1984-7/31/1984	31	Hadnot Point	507	55777	24	2640	45	4951	7	770	
8/1/1984-8/31/1984	31	Hadnot Point	539	59297	26	2860	48	5281	8	880	
9/1/1984-9/30/1984	30	Hadnot Point	443	47164	21	2236	39	4152	8	852	
10/1/1984-10/31/1984	31	Hadnot Point	94	10341	3	330	6	660	8	880	
11/1/1984-11/30/1984	30	Hadnot Point	639	68031	31	3300	59	6281	8	852	
12/1/1984-12/17/1984	17	Hadnot Point	43	2594	2	121	4	241	2	121	
	374		**5,889**	**612,853**	**280**	**29,100**	**509**	**52,970**	**105**	**10,984**	

time	product	number	volume (ounces ea)	total volume per day
morning	filled water cup	1	32	0.946352
meals	water not every meal (2/3)	2	32	1.892704
coffee		2	12	0.709764
			Sum	**3.54882**

*drank a lot of water after PT; drank from fountain- filled 32 oz plastic cup; during weekdays at least 1 32-oz cup in the morning; 12 oz water with meals but not every day (sometimes drank milk with meals); drank coffee.

Chart 4: Days on base and cumulative contaminant exposure concentrations FM 1957-1983 moderate day averages

Exposure Dates	Total Days	Exposure Location (Work)	TCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	PCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	VC (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	BZ (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	3 days per week training heavy activity from deposition; FM average 1957-1983; moderate day: desert/tropical <80oF	4 days per week training light activity from deposition; FM average 1957-1983; moderate day: desert/tropical <80oF
12/10/1983-12/31/1983	22	Hadnot Point	688	100287	34	4956	59	8600	9	1312	8.52	5.21
1/1/1984-1/31/1984	31	Hadnot Point	427	87705	21	4313	36	7394	11	2259	3	4
2/1/1984-2/29/1984	29	Hadnot Point	560	107602	27	5188	47	9031	8	1537		
3/1/1984-3/31/1984	31	Hadnot Point	587	120568	28	5751	50	10270	7	1438		
4/1/1984-4/30/1984	30	Hadnot Point	400	79509	18	3578	33	6559	12	2385		
5/1/1984-5/31/1984	31	Hadnot Point	491	100850	23	4724	42	8627	10	2054		
6/1/1984-6/30/1984	30	Hadnot Point	471	93621	22	4373	41	8150	7	1391		
7/1/1984-7/31/1984	31	Hadnot Point	507	104136	24	4930	45	9243	7	1438		
8/1/1984-8/31/1984	31	Hadnot Point	539	110709	26	5340	48	9859	8	1643		
9/1/1984-9/30/1984	30	Hadnot Point	443	88056	21	4174	39	7752	8	1590		
10/1/1984-10/31/1984	31	Hadnot Point	94	19307	3	616	6	1232	8	1643		
11/1/1984-11/30/1984	30	Hadnot Point	639	127015	31	6162	59	11728	8	1590		
12/1/1984-12/17/1984	17	Hadnot Point	43	4843	2	225	4	451	2	225		
	374		**5,889**	**1,144,208**	**280**	**54,331**	**509**	**98,895**	**105**	**20,507**		

Summed variable totals

		Chart 1: 1L	Chart 2: ATSDR marine in training (4.334 L consumption per day)	Chart 3: Deposition informed ingestion activities	Chart 4 Deposition/FM
	Cumulative ug/l-M	Cumulative consumption (total ug= days*concentration per L)	Cumulative consumption (total ug= days*concentration per ATSDR exposure assumptions)	Cumulative consumption (total ug= days*concentration per deposition exposure assumptions)	Cumulative consumption (total ug= days*concentration per deposition/FM exposure assumptions)
TCE	5,889	172,692	748,447	612,853	1,144,208
PCE	280	8,200	35,539	29,100	54,331
VC	509	14,926	64,689	52,970	98,895
BZ	105	3,095	13,414	10,984	20,507

Appendix 5

Edward Raymond (Bladder Cancer)

Exposure Dates	Total Days	Exposure Location (Work/Residential)	TCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	PCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	VC (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	BZ (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)
11/22/1963-11/30/1963	9	Hadnot Point	24		0		0		1	
12/1/1963-12/31/1963	31	Hadnot Point	21		0		0		1	
1/1/1964-1/31/1964	31	Hadnot Point	22		0		0		1	
2/1/1964-2/29/1964	29	Hadnot Point	21		0		0		0	
3/1/1964-3/31/1964	31	Hadnot Point	18		0		0		0	
4/1/1964-4/30/1964	30	Hadnot Point	25		0		0		1	
5/1/1964-5/31/1964	31	Hadnot Point	21		0		0		1	
6/1/1964-6/30/1964	30	Hadnot Point	20		0		0		0	
7/1/1964-7/31/1964	31	Hadnot Point	21		0		0		0	
8/1/1964-8/31/1964	31	Hadnot Point	25		0		0		1	
9/1/1964-9/30/1964	30	Hadnot Point	22		0		0		1	
10/1/1964-10/4/1964	4	Hadnot Point	24		0		0		1	
11/25/1964-11/30/1964	6	Hadnot Point	25		0		0		1	
12/1/1964-12/17/1964; 12/28/1964-12/31/1964	21	Hadnot Point	23		0		0		1	
1/1/1965-1/31/1965	31	Hadnot Point	22		0		0		1	
2/1/1965-2/28/1965	28	Hadnot Point	23		0		0		1	
3/1/1965-3/12/1965; 3/31/1965	13	Hadnot Point	19		0		0		0	
4/1/1965-4/30/1965	30	Hadnot Point	26		0		0		1	
5/1/1965-5/31/1965	31	Hadnot Point	21		0		0		1	
6/1/1965-6/30/1965	30	Hadnot Point	21		0		0		1	
7/1/1965-7/31/1965	31	Hadnot Point	21		0		0		1	
8/1/1965-8/31/1965	31	Hadnot Point	25		0		0		1	
9/1/1965-9/30/1965	30	Hadnot Point	22		0		0		1	
10/1/1965-10/31/1965	31	Hadnot Point	23		0		0		1	
11/1/1965-11/30/1965	30	Hadnot Point	23		0		0		1	
12/1/1965	1	Hadnot Point	21		0		0		1	
	662		579		0		0		21	

*classified as a marine in training; some field work but no quantitative number of days given; mocked adverse events training away from radio shop
*drank 1-2 canteens per day during summer and less in winter but no quantitative amount given
*use default training consumption values

Chart 1: Days on base and cumulative contaminant exposure concentrations (1 L consumption per day)

Exposure Dates	Total Days	Exposure Location (Work/Residential)	TCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	PCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	VC (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	BZ (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	1L concentration summaries
11/22/1963-11/30/1963	9	Hadnot Point	24	216	0	0	0	0	1	9	1
12/1/1963-12/31/1963	31	Hadnot Point	21	651	0	0	0	0	1	31	
1/1/1964-1/31/1964	31	Hadnot Point	22	682	0	0	0	0	1	31	
2/1/1964-2/29/1964	29	Hadnot Point	21	609	0	0	0	0	0	0	
3/1/1964-3/31/1964	31	Hadnot Point	18	558	0	0	0	0	0	0	
4/1/1964-4/30/1964	30	Hadnot Point	25	750	0	0	0	0	1	30	
5/1/1964-5/31/1964	31	Hadnot Point	21	651	0	0	0	0	1	31	
6/1/1964-6/30/1964	30	Hadnot Point	20	600	0	0	0	0	0	0	
7/1/1964-7/31/1964	31	Hadnot Point	21	651	0	0	0	0	0	0	
8/1/1964-8/31/1964	31	Hadnot Point	25	775	0	0	0	0	1	31	
9/1/1964-9/30/1964	30	Hadnot Point	22	660	0	0	0	0	1	30	
10/1/1964-10/4/1964	4	Hadnot Point	24	96	0	0	0	0	1	4	
11/25/1964-11/30/1964	6	Hadnot Point	25	150	0	0	0	0	1	6	
12/1/1964-12/17/1964; 12/28/1964-12/31/1964	21	Hadnot Point	23	483	0	0	0	0	1	21	
1/1/1965-1/31/1965	31	Hadnot Point	22	682	0	0	0	0	1	31	
2/1/1965-2/28/1965	28	Hadnot Point	23	644	0	0	0	0	1	28	
3/1/1965-3/12/1965; 3/31/1965	13	Hadnot Point	19	247	0	0	0	0	0	0	
4/1/1965-4/30/1965	30	Hadnot Point	26	780	0	0	0	0	1	30	
5/1/1965-5/31/1965	31	Hadnot Point	21	651	0	0	0	0	1	31	
6/1/1965-6/30/1965	30	Hadnot Point	21	630	0	0	0	0	1	30	
7/1/1965-7/31/1965	31	Hadnot Point	21	651	0	0	0	0	1	31	
8/1/1965-8/31/1965	31	Hadnot Point	25	775	0	0	0	0	1	31	
9/1/1965-9/30/1965	30	Hadnot Point	22	660	0	0	0	0	1	30	
10/1/1965-10/31/1965	31	Hadnot Point	23	713	0	0	0	0	1	31	
11/1/1965-11/30/1965	30	Hadnot Point	23	690	0	0	0	0	1	30	
12/1/1965	1	Hadnot Point	21	21	0	0	0	0	1	1	
	662		579	14,676	-	-	-	-	21	528	

Chart 2: ATSDR marine in training (4.334 L consumption per day)

Exposure Dates	Total Days	Exposure Location (Work)	TCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	PCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	VC (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	BZ (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	ATSDR marine in training
11/22/1963-11/30/1963	9	Hadnot Point	24	936	0	0	0	0	1	39	4.334
12/1/1963-12/31/1963	31	Hadnot Point	21	2821	0	0	0	0	1	134	
1/1/1964-1/31/1964	31	Hadnot Point	22	2956	0	0	0	0	1	134	
2/1/1964-2/29/1964	29	Hadnot Point	21	2639	0	0	0	0	0	0	
3/1/1964-3/31/1964	31	Hadnot Point	18	2418	0	0	0	0	0	0	
4/1/1964-4/30/1964	30	Hadnot Point	25	3251	0	0	0	0	1	130	
5/1/1964-5/31/1964	31	Hadnot Point	21	2821	0	0	0	0	1	134	
6/1/1964-6/30/1964	30	Hadnot Point	20	2600	0	0	0	0	0	0	
7/1/1964-7/31/1964	31	Hadnot Point	21	2821	0	0	0	0	0	0	
8/1/1964-8/31/1964	31	Hadnot Point	25	3359	0	0	0	0	1	134	
9/1/1964-9/30/1964	30	Hadnot Point	22	2860	0	0	0	0	1	130	
10/1/1964-10/4/1964	4	Hadnot Point	24	416	0	0	0	0	1	17	
11/25/1964-11/30/1964	6	Hadnot Point	25	650	0	0	0	0	1	26	

*classified as marine in training with some field work

12/1/1964-12/17/1964; 12/28/1964-12/31/1964	21	Hadnot Point	23	2093	0	0	0	0	1	91
1/1/1965-1/31/1965	31	Hadnot Point	22	2956	0	0	0	0	1	134
2/1/1965-2/28/1965	28	Hadnot Point	23	2791	0	0	0	0	1	121
3/1/1965-3/12/1965; 3/31/1965	13	Hadnot Point	19	1070	0	0	0	0	0	0
4/1/1965-4/30/1965	30	Hadnot Point	26	3381	0	0	0	0	1	130
5/1/1965-5/31/1965	31	Hadnot Point	21	2821	0	0	0	0	1	134
6/1/1965-6/30/1965	30	Hadnot Point	21	2730	0	0	0	0	1	130
7/1/1965-7/31/1965	31	Hadnot Point	21	2821	0	0	0	0	1	134
8/1/1965-8/31/1965	31	Hadnot Point	25	3359	0	0	0	0	1	134
9/1/1965-9/30/1965	30	Hadnot Point	22	2860	0	0	0	0	1	130
10/1/1965-10/31/1965	31	Hadnot Point	23	3090	0	0	0	0	1	134
11/1/1965-11/30/1965	30	Hadnot Point	23	2990	0	0	0	0	1	130
12/1/1965	1	Hadnot Point	21	91	0	0	0	0	1	4
	662		**579**	**63,606**	-	-	-	-	**21**	**2,288**

Chart 3: ATSDR Civilian worker RME (3.092 L consumption per day)

Exposure Dates	Total Days	Exposure Location (Work)	TCE (ug/L-M)	Cumulative consumption (total ug= days*concentration per L)	PCE (ug/L-M)	Cumulative consumption (total ug= days*concentration per L)	VC (ug/L-M)	Cumulative consumption (total ug= days*concentration per L)	BZ (ug/L-M)	Cumulative consumption (total ug= days*concentration per L)	ATSDR civilian worker RME
11/22/1963-11/30/1963	9	Hadnot Point	24	668	0	0	0	0	1	28	**3.092**
12/1/1963-12/31/1963	31	Hadnot Point	21	2013	0	0	0	0	1	96	
1/1/1964-1/31/1964	31	Hadnot Point	22	2109	0	0	0	0	1	96	
2/1/1964-2/29/1964	29	Hadnot Point	21	1883	0	0	0	0	0	0	
3/1/1964-3/31/1964	31	Hadnot Point	18	1725	0	0	0	0	0	0	
4/1/1964-4/30/1964	30	Hadnot Point	25	2319	0	0	0	0	1	93	
5/1/1964-5/31/1964	31	Hadnot Point	21	2013	0	0	0	0	1	96	
6/1/1964-6/30/1964	30	Hadnot Point	20	1855	0	0	0	0	0	0	
7/1/1964-7/31/1964	31	Hadnot Point	21	2013	0	0	0	0	0	0	
8/1/1964-8/31/1964	31	Hadnot Point	25	2396	0	0	0	0	1	96	
9/1/1964-9/30/1964	30	Hadnot Point	22	2041	0	0	0	0	1	93	
10/1/1964-10/4/1964	4	Hadnot Point	24	297	0	0	0	0	1	12	
11/25/1964-11/30/1964	6	Hadnot Point	25	464	0	0	0	0	1	19	
12/1/1964-12/17/1964; 12/28/1964-12/31/1964	21	Hadnot Point	23	1493	0	0	0	0	1	65	
1/1/1965-1/31/1965	31	Hadnot Point	22	2109	0	0	0	0	1	96	
2/1/1965-2/28/1965	28	Hadnot Point	23	1991	0	0	0	0	1	87	
3/1/1965-3/12/1965; 3/31/1965	13	Hadnot Point	19	764	0	0	0	0	0	0	
4/1/1965-4/30/1965	30	Hadnot Point	26	2412	0	0	0	0	1	93	
5/1/1965-5/31/1965	31	Hadnot Point	21	2013	0	0	0	0	1	96	
6/1/1965-6/30/1965	30	Hadnot Point	21	1948	0	0	0	0	1	93	
7/1/1965-7/31/1965	31	Hadnot Point	21	2013	0	0	0	0	1	96	
8/1/1965-8/31/1965	31	Hadnot Point	25	2396	0	0	0	0	1	96	
9/1/1965-9/30/1965	30	Hadnot Point	22	2041	0	0	0	0	1	93	
10/1/1965-10/31/1965	31	Hadnot Point	23	2205	0	0	0	0	1	96	
11/1/1965-11/30/1965	30	Hadnot Point	23	2133	0	0	0	0	1	93	
12/1/1965	1	Hadnot Point	21	65	0	0	0	0	1	3	
	662		**579**	**45,378**	-	-	-	-	**21**	**1,633**	

*classified as marine in training but described shop work with some field work and 1-2 canteen volumes consumed in field plus typical ingestion volumes for light duty work considered
*canteen volume reported on hot days
1.419528 L

Chart 4: ATSDR Civilian worker CTE (1.227 L consumption per day)

Exposure Dates	Total Days	Exposure Location (Work)	TCE (ug/L-M)	Cumulative consumption (total ug= days*concentration per L)	PCE (ug/L-M)	Cumulative consumption (total ug= days*concentration per L)	VC (ug/L-M)	Cumulative consumption (total ug= days*concentration per L)	BZ (ug/L-M)	Cumulative consumption (total ug= days*concentration per L)	ATSDR civilian worker CTE
11/22/1963-11/30/1963	9	Hadnot Point	24	265	0	0	0	0	1	11	**1.227**
12/1/1963-12/31/1963	31	Hadnot Point	21	799	0	0	0	0	1	38	
1/1/1964-1/31/1964	31	Hadnot Point	22	837	0	0	0	0	1	38	
2/1/1964-2/29/1964	29	Hadnot Point	21	747	0	0	0	0	0	0	
3/1/1964-3/31/1964	31	Hadnot Point	18	685	0	0	0	0	0	0	
4/1/1964-4/30/1964	30	Hadnot Point	25	920	0	0	0	0	1	37	
5/1/1964-5/31/1964	31	Hadnot Point	21	799	0	0	0	0	1	38	
6/1/1964-6/30/1964	30	Hadnot Point	20	736	0	0	0	0	0	0	
7/1/1964-7/31/1964	31	Hadnot Point	21	799	0	0	0	0	0	0	
8/1/1964-8/31/1964	31	Hadnot Point	25	951	0	0	0	0	1	38	
9/1/1964-9/30/1964	30	Hadnot Point	22	810	0	0	0	0	1	37	
10/1/1964-10/4/1964	4	Hadnot Point	24	118	0	0	0	0	1	5	
11/25/1964-11/30/1964	6	Hadnot Point	25	184	0	0	0	0	1	7	
12/1/1964-12/17/1964; 12/28/1964-12/31/1964	21	Hadnot Point	23	593	0	0	0	0	1	26	
1/1/1965-1/31/1965	31	Hadnot Point	22	837	0	0	0	0	1	38	
2/1/1965-2/28/1965	28	Hadnot Point	23	790	0	0	0	0	1	34	
3/1/1965-3/12/1965; 3/31/1965	13	Hadnot Point	19	303	0	0	0	0	0	0	
4/1/1965-4/30/1965	30	Hadnot Point	26	957	0	0	0	0	1	37	
5/1/1965-5/31/1965	31	Hadnot Point	21	799	0	0	0	0	1	38	
6/1/1965-6/30/1965	30	Hadnot Point	21	773	0	0	0	0	1	37	
7/1/1965-7/31/1965	31	Hadnot Point	21	799	0	0	0	0	1	38	
8/1/1965-8/31/1965	31	Hadnot Point	25	951	0	0	0	0	1	38	
9/1/1965-9/30/1965	30	Hadnot Point	22	810	0	0	0	0	1	37	
10/1/1965-10/31/1965	31	Hadnot Point	23	875	0	0	0	0	1	38	
11/1/1965-11/30/1965	30	Hadnot Point	23	847	0	0	0	0	1	37	
12/1/1965	1	Hadnot Point	21	26	0	0	0	0	1	1	
	662		**579**	**18,007**	-	-	-	-	**21**	**648**	

Chart 5: Days on base and cumulative contaminant exposure concentrations FM 1957-1983 moderate day averages

Exposure Dates	Total Days	Exposure Location (Work)	TCE (ug/L-M)	Cumulative consumption (total ug= days*concentration per L)	PCE (ug/L-M)	Cumulative consumption (total ug= days*concentration per L)	VC (ug/L-M)	Cumulative consumption (total ug= days*concentration per L)	BZ (ug/L-M)	Cumulative consumption (total ug= days*concentration per L)	3 days per week training heavy activity from deposition; FM average 1957-1983; moderate day: desert/tropical <80oF	4 days per week training light activity from deposition; FM average 1957-1983; moderate day: desert/tropical <80oF
11/22/1963-11/30/1963	9	Hadnot Point	24	1431	0	0	0	0	1	60	8.52	5.21
12/1/1963-12/31/1963	31	Hadnot Point	21	4313	0	0	0	0	1	205	3	4
1/1/1964-1/31/1964	31	Hadnot Point	22	4519	0	0	0	0	1	205		
2/1/1964-2/29/1964	29	Hadnot Point	21	4035	0	0	0	0	0	0		
3/1/1964-3/31/1964	31	Hadnot Point	18	3697	0	0	0	0	0	0		
4/1/1964-4/30/1964	30	Hadnot Point	25	4969	0	0	0	0	1	199		
5/1/1964-5/31/1964	31	Hadnot Point	21	4313	0	0	0	0	1	205		
6/1/1964-6/30/1964	30	Hadnot Point	20	3975	0	0	0	0	0	0		
7/1/1964-7/31/1964	31	Hadnot Point	21	4313	0	0	0	0	0	0		
8/1/1964-8/31/1964	31	Hadnot Point	25	5135	0	0	0	0	1	205		
9/1/1964-9/30/1964	30	Hadnot Point	22	4373	0	0	0	0	1	199		
10/1/1964-10/4/1964	4	Hadnot Point	24	636	0	0	0	0	1	27		
11/25/1964-11/30/1964	6	Hadnot Point	25	994	0	0	0	0	1	40		
12/1/1964-12/17/1964; 12/28/1964-12/31/1964	21	Hadnot Point	23	3200	0	0	0	0	1	139		
1/1/1965-1/31/1965	31	Hadnot Point	22	4519	0	0	0	0	1	205		
2/1/1965-2/28/1965	28	Hadnot Point	23	4267	0	0	0	0	1	186		
3/1/1965-3/12/1965; 3/31/1965	13	Hadnot Point	19	1637	0	0	0	0	0	0		
4/1/1965-4/30/1965	30	Hadnot Point	26	5168	0	0	0	0	1	199		
5/1/1965-5/31/1965	31	Hadnot Point	21	4313	0	0	0	0	1	205		
6/1/1965-6/30/1965	30	Hadnot Point	21	4174	0	0	0	0	1	199		
7/1/1965-7/31/1965	31	Hadnot Point	21	4313	0	0	0	0	1	205		
8/1/1965-8/31/1965	31	Hadnot Point	25	5135	0	0	0	0	1	205		
9/1/1965-9/30/1965	30	Hadnot Point	22	4373	0	0	0	0	1	199		
10/1/1965-10/31/1965	31	Hadnot Point	23	4724	0	0	0	0	1	205		
11/1/1965-11/30/1965	30	Hadnot Point	23	4572	0	0	0	0	1	199		
12/1/1965	1	Hadnot Point	21	139	0	0	0	0	1	7		
	662		579	97,239	-	-	-	-	21	3,498		

*client classified as marine in training

Summed variable totals

	Cumulative ug/l-M	Chart 1: 1L Cumulative consumption (total ug= days*concentration per L)	Chart 2: ATSDR marine in training (4.334 L consumption per day) Cumulative consumption (total ug= days*concentration per ATSDR exposure assumptions)	Chart 3: ATSDR Civilian worker RME (3.092 L consumption per day) Cumulative consumption (total ug= days*concentration per ATSDR exposure assumptions)	Chart 4: ATSDR Civilian worker CTE (1.227 L consumption per day) Cumulative consumption (total ug= days*concentration per deposition/FM exposure	Chart 5: Days on base and cumulative contaminant exposure concentrations FM 1957-1983 moderate day averages Cumulative consumption (total ug= days*concentration per deposition/FM exposure
TCE	579	14,676	63,606	45,378	18,007	97,239
PCE	-	-	-	-	-	-
VC	-	-	-	-	-	-
BZ	21	528	2,288	1,633	648	3,498

Appendix 6

David Downs (Kidney Cancer)

Summed variable totals

	Cumulative ug/l-M	Chart 1: 1L at each lo Cumulative consumption (total ug= days*concentration per L)	Chart 2: ATSDR RME with proportional work/residence exposures Cumulative consumption (total ug= days*concentration per ATSDR exposure assumptions)	Chart 3: ATSDR CTE with proportional work/residence exposures Cumulative consumption (total ug= days*concentration per ATSDR exposure assumptions)	Chart 4: Deposition Estimates with proportional work/residence exposures Cumulative consumption (total ug= days*concentration per deposition exposure assumptions)
Hadnot Point					
TCE	282	7,866	8,151	3,234	8,029
PCE	-	-	-	-	-
VC	-	-	-	-	-
BZ	-	-	-	-	-
Tarawa Terrace					
TCE	43	1,240	2,635	1,046	2,596
PCE (ug/l-M)(TechFlowMP Model)	939	27,838	59,157	23,475	58,278
PCE (ug/l-M)(MT3DMS Model)	1,281	37,980	80,689	32,020	79,491
VC	122	3,586	7,615	3,022	7,502
BZ	-	-	-	-	-
Totals HP & TT					
TCE	325	9,106	10,786	4,280	10,626
PCE (ug/l-M)(TechFlowMP Model)	939	27,838	59,157	23,475	58,278
PCE (ug/l-M)(MT3DMS Model)	1,281	37,980	80,689	32,020	79,491
VC	122	3,586	7,615	3,022	7,502
BZ	-	-	-	-	-

Exposure Dates HP	Total Days work location HP	Total Days residential location TT	TCE (ug/l-M) HP	TCE (ug/l-M)				PCE (ug/l-M) HP	PCE (ug/l-M)(TechRiowMP Model)				PCE (ug/l-M) HP	PCE (ug/l-M)(MT3DMS Model)				VC (ug/l-M) HP	VC (ug/l-M)				BZ (ug/l-M) HP	BZ (ug/l-M)					
2/16/1960-02/29/1960	14	14	11	1				0	31				0	44				0	5				0	0					
3/1/1960-03/31/1960	31	31	9	2				0	33				0	46				0	5				0	0					
4/1/1960-04/30/1960	30	30	16	2				0	34				0	48				0	5				0	0					
5/1/1960-05/31/1960	31	31	13	2				0	36				0	50				0	5				0	0					
6/1/1960-06/01/1960; 06/11/1960-06/30/1960	21	21	12	2				0	37				0	53				0	5				0	0					
06/02/1960-06/10/1960	0	9	12	2				0	37				0	53				0	5				0	0					
7/1/1960-7/31/1960	31	31	12	2				0	39				0	55				0	5				0	0					
8/1/1960-8/31/1960	31	31	15	2				0	40				0	57				0	6				0	0					
9/1/1960-9/30/1960	30	30	14	2				0	42				0	59				0	6				0	0					
10/1/1960-10/31/1960	31	31	13	2				0	44				0	61				0	6				0	0					
11/1/1960-11/30/1960	30	30	18	2				0	46				0	63				0	6				0	0					
12/1/1960-12/31/1960	31	31	14	2				0	47				0	66				0	6				0	0					
1/1/1961-1/31/1961	31	31	16	2				0	49				0	68				0	6				0	0					
2/1/1961-2/4/1961; 2/13/1961-2/28/1961	20	20	12	2				0	51				0	70				0	6				0	0					
2/5/1961-2/12/1961	0	8	12	2				0	51				0	70				0	6				0	0					
3/1/1961-3/31/1961	31	30	10	2				0	53				0	72				0	7				0	0					
4/1/1961-4/30/1961	30	30	18	2				0	55				0	73				0	7				0	0					
5/1/1961-5/8/1961; 5/18/1961-5/31/1961	22	22	15	3				0	57				0	75				0	7				0	0					
5/9/1961-5/17/1961	0	9	15	3				0	57				0	75				0	7				0	0					
6/1/1961-6/22/1961	22	22	14	3				0	59				0	77				0	7				0	0					
6/23/1961-6/30/1961	0	8	14	3				0	59				0	77				0	7				0	0					
7/1/1961-7/31/1961	31	31	14	3				0	60				0	79				0	7				0	0					
8/1/1961-8/31/1961	31	31	19	3				0	62				0	81				0	7				0	0					
9/1/1961-9/27/1961	27	27	17	3				0	64				0	83				0	8				0	0					
	556	**589**	**282**	**43**				**-**	**939**				**-**	**1,281**				**-**	**122**				**-**	**-**					

Chart 1: Person base and cumulative contaminant exposure concentrations (1 L consumption per day)

Exposure Dates	Total Days work location HP	Total Days residential location TT	TCE (ug/l-M) HP	TCE (ug/l-M) TT	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	PCE (ug/l-M) HP	PCE (ug/l-M)(TechRiowMP Model) TT	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	PCE (ug/l-M) HP	PCE (ug/l-M)(MT3DMS Model) TT	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	VC (ug/l-M) HP	VC (ug/l-M) TT	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	BZ (ug/l-M) HP	BZ (ug/l-M) TT	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	Ingestion (L)	Ingestion exposure notes
2/16/1960-02/29/1960	14	14	8	1	132	20.44	112	0	31	436	436.38	0	0	44	614	613.9	0	0	5	68	68.04	0	0	0	0	0	0	1.000	assume 1L from source regardless of activity or residence proportion
3/1/1960-03/31/1960	31	31	9	2	326	47.12	279	0	33	1010	1009.98	0	0	46	1427	1426.93	0	0	5	154	154.07	0	0	0	0	0	0		
4/1/1960-04/30/1960	30	30	16	2	528	47.7	480	0	34	1025	1024.8	0	0	48	1445	1444.5	0	0	5	153	153	0	0	0	0	0	0		
5/1/1960-05/31/1960	31	31	13	2	454	51.46	403	0	36	1106	1105.77	0	0	50	1561	1561.47	0	0	5	162	161.51	0	0	0	0	0	0		
6/1/1960-06/01/1960; 06/11/1960-06/30/1960	21	21	12	2	288	36.33	252	0	37	782	782.04	0	0	53	1103	1102.71	0	0	5	112	111.93	0	0	0	0	0	0		
06/02/1960-06/10/1960	0	9	12	2	16	15.57	0	0	37	335	335.16	0	0	53	473	472.59	0	0	5	48	47.97	0	0	0	0	0	0		
7/1/1960-7/31/1960	31	31	12	2	428	55.8	372	0	39	1202	1202.49	0	0	55	1697	1696.94	0	0	5	169	168.95	0	0	0	0	0	0		
8/1/1960-8/31/1960	31	31	15	2	523	57.97	465	0	40	1254	1253.95	0	0	57	1766	1765.76	0	0	6	173	173.29	0	0	0	0	0	0		
9/1/1960-9/30/1960	30	30	14	2	474	54	420	0	42	1264	1263.9	0	0	59	1773	1772.7	0	0	6	172	171.9	0	0	0	0	0	0		
10/1/1960-10/31/1960	31	31	13	2	466	62.62	403	0	44	1358	1357.8	0	0	61	1900	1900.3	0	0	6	182	181.66	0	0	0	0	0	0		
11/1/1960-11/30/1960	30	30	18	2	603	62.7	540	0	46	1367	1367.1	0	0	63	1903	1902.6	0	0	6	172	171.9	0	0	0	0	0	0		
12/1/1960-12/31/1960	31	31	14	2	497	62.62	434	0	47	1467	1466.61	0	0	66	2034	2033.91	0	0	6	191	190.65	0	0	0	0	0	0		
1/1/1961-1/31/1961	31	31	16	2	561	64.79	496	0	49	1524	1523.65	0	0	68	2098	2098.39	0	0	6	195	195.3	0	0	0	0	0	0		
2/1/1961-2/4/1961;	20	20	12	2	283	43.4	240	0	51	1021	1020.6	0	0	70	1391	1390.8	0	0	6	123	123	0	0	0	0	0	0		
2/5/1961-2/12/1961	0	8	12	2	17	17.36	0	0	51	408	408.24	0	0	70	556	556.32	0	0	6	49	49.2	0	0	0	0	0	0		
3/1/1961-3/31/1961	31	30	10	2	378	67.5	310	0	53	1582	1581.9	0	0	72	2147	2146.8	0	0	7	198	198.3	0	0	0	0	0	0		
4/1/1961-4/30/1961	30	30	18	2	610	69.9	540	0	55	1641	1640.7	0	0	73	2205	2204.7	0	0	7	203	203.1	0	0	0	0	0	0		
5/1/1961-5/8/1961;	22	22	15	3	387	56.76	330	0	57	1245	1244.54	0	0	75	1661	1660.78	0	0	7	152	152.24	0	0	0	0	0	0		
5/9/1961-5/17/1961	0	9	15	3	23	23.22	0	0	57	509	509.13	0	0	75	679	679.41	0	0	7	62	62.28	0	0	0	0	0	0		
6/1/1961-6/22/1961	22	22	14	3	367	58.52	308	0	59	1288	1287.66	0	0	77	1703	1702.58	0	0	7	156	155.54	0	0	0	0	0	0		
6/23/1961-6/30/1961	0	8	14	3	21	21.28	0	0	59	468	468.24	0	0	77	619	619.12	0	0	7	57	56.56	0	0	0	0	0	0		
7/1/1961-7/31/1961	31	31	14	3	519	85.25	434	0	60	1873	1873.33	0	0	79	2460	2460.16	0	0	7	205	204.91	0	0	0	0	0	0		
8/1/1961-8/31/1961	31	31	19	3	677	87.73	589	0	62	1935	1935.02	0	0	81	2521	2520.92	0	0	7	228	228.16	0	0	0	0	0	0		
9/1/1961-9/27/1961	27	27	17	3	529	69.66	459	0	64	1739	1738.8	0	0	83	2246	2246.13	0	0	8	203	202.77	0	0	0	0	0	0		
	556	**589**			**9,106**	**1,240**	**7,866**			**27,838**	**27,838**	**-**			**37,980**	**37,980**	**-**			**3,586**	**3,586**	**-**			**-**	**-**	**-**		

Chart 2: ATSDR civilian worker RME (3.092 L consumption per day)

Exposure Dates	Total Days work location HP	Total Days residential location TT	TCE (ug/l-M) HP	TCE (ug/l-M) TT	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	PCE (ug/l-M) HP	PCE (ug/l-M)(TechRiowMP Model) TT	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	PCE (ug/l-M) HP	PCE (ug/l-M)(MT3DMS Model) TT	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	VC (ug/l-M) HP	VC (ug/l-M) TT	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	BZ (ug/l-M) HP	BZ (ug/l-M) TT	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	Ingestion (L)	Ingestion exposure notes
2/16/1960-02/29/1960	14	14	11	1	201	42	159	0	31	900	900	0	0	44	1265	1265	0	0	5	140	140	0	0	0	0	0	0	3.092	**ATSDR ingestion RME L/day 7 days per week**
3/1/1960-03/31/1960	31	31	9	2	385	97	288	0	33	2082	2082	0	0	46	2941	2941	0	0	5	318	318	0	0	0	0	0	0	0.333	HP work proportion of water consumed
4/1/1960-04/30/1960	30	30	16	2	593	98	495	0	34	2112	2112	0	0	48	2978	2978	0	0	5	315	315	0	0	0	0	0	0	0.667	TT residence proportion of water consumed

5/1/1960-05/31/1960	31	31	13	2	521	106	415	0	36	2279	2279	0	0	50	3219	3219	0	0	5	333	333	0	0	0	0	0	0	1	TT leave residence proportion of water consumed
6/1/1960-06/01/1960;	21	21	12	2	335	75	260	0	37	1612	1612	0	0	53	2273	2273	0	0	5	231	231	0	0	0	0	0	0	0	HP leave work proportion of water consumed
06/02/1960-06/10/1960	0	9	12	2	48	48	0	0	37	1036	1036	0	0	53	1461	1461	0	0	5	148	148	0	0	0	0	0	0		
7/1/1960-7/31/1960	31	31	12	2	498	115	383	0	39	2479	2479	0	0	55	3498	3498	0	0	5	348	348	0	0	0	0	0	0		
8/1/1960-8/31/1960	31	31	15	2	599	119	479	0	40	2585	2585	0	0	57	3640	3640	0	0	6	357	357	0	0	0	0	0	0		
9/1/1960-9/30/1960	30	30	14	2	544	111	433	0	42	2605	2605	0	0	59	3654	3654	0	0	6	354	354	0	0	0	0	0	0		
10/1/1960-10/31/1960	31	31	13	2	544	129	415	0	44	2799	2799	0	0	61	3917	3917	0	0	6	374	374	0	0	0	0	0	0		
11/1/1960-11/30/1960	30	30	18	2	686	129	557	0	46	2818	2818	0	0	63	3922	3922	0	0	6	354	354	0	0	0	0	0	0		
12/1/1960-12/31/1960	31	31	14	2	576	129	447	0	47	3023	3023	0	0	66	4193	4193	0	0	6	393	393	0	0	0	0	0	0		
1/1/1961-1/31/1961	31	31	16	2	645	134	511	0	49	3141	3141	0	0	68	4325	4325	0	0	6	403	403	0	0	0	0	0	0		
2/1/1961-2/4/1961;	20	20	12	2	337	89	247	0	51	2104	2104	0	0	70	2867	2867	0	0	6	254	254	0	0	0	0	0	0		
2/5/1961-2/12/1961	0	8	12	2	54	54	0	0	51	1262	1262	0	0	70	1720	1720	0	0	6	152	152	0	0	0	0	0	0		
3/1/1961-3/31/1961	31	30	10	2	459	139	320	0	53	3261	3261	0	0	72	4425	4425	0	0	7	409	409	0	0	0	0	0	0		
4/1/1961-4/30/1961	30	30	18	2	701	144	557	0	55	3382	3382	0	0	73	4545	4545	0	0	7	419	419	0	0	0	0	0	0		
5/1/1961-5/8/1961;	22	22	15	3	457	117	340	0	57	2565	2565	0	0	75	3423	3423	0	0	7	314	314	0	0	0	0	0	0		
5/9/1961-5/17/1961	0	9	15	3	72	72	0	0	57	1574	1574	0	0	75	2101	2101	0	0	7	193	193	0	0	0	0	0	0		
6/1/1961-6/22/1961	22	22	14	3	438	121	317	0	59	2654	2654	0	0	77	3510	3510	0	0	7	321	321	0	0	0	0	0	0		
6/23/1961-6/30/1961	0	8	14	3	66	66	0	0	59	1448	1448	0	0	77	1914	1914	0	0	7	175	175	0	0	0	0	0	0		
7/1/1961-7/31/1961	31	31	14	3	623	176	447	0	60	3862	3862	0	0	79	5071	5071	0	0	7	422	422	0	0	0	0	0	0		
8/1/1961-8/31/1961	31	31	19	3	788	181	607	0	62	3989	3989	0	0	81	5196	5196	0	0	7	470	470	0	0	0	0	0	0		
9/1/1961-9/27/1961	27	27	17	3	617	144	473	0	64	3584	3584	0	0	83	4630	4630	0	0	8	418	418	0	0	0	0	0	0		
	556	**589**			**10,786**	**2,635**	**8,151**			**59,157**	**59,157**	**-**			**80,689**	**80,689**	**-**			**7,615**	**7,615**	**-**			**-**	**-**	**-**		

Chart 3: Arbor civilian worker CTE (1.227 L consumption per day)

Exposure Dates	Total Days work location HP	Total Days residential location TT	TCE (ug/l-M) HP	TCE (ug/l-M) TT	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	PCE (ug/l-M) HP	PCE (ug/l-M)(TechRow/MP Model) TT	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	PCE (ug/l-M) HP	PCE (ug/l-M)(MT3DMS Model) TT	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	VC (ug/l-M) HP	VC (ug/l-M) TT	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	BZ (ug/l-M) HP	BZ (ug/l-M) TT	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	ingestion (L)	Ingestion exposure notes
2/16/1960-02/29/1960	14	14	11	1	80	17	63	0	31	357	357	0	0	44	502	502	0	0	5	56	56	0	0	0	0	0	0	1.227	ATSDR ingestion CTE L/day 7 days per week
3/1/1960-03/31/1960	31	31	9	2	153	39	114	0	33	826	826	0	0	46	1167	1167	0	0	5	126	126	0	0	0	0	0	0	0.333	HP work proportion of water consumed
4/1/1960-04/30/1960	30	30	16	2	235	39	196	0	34	838	838	0	0	48	1182	1182	0	0	5	125	125	0	0	0	0	0	0	0.667	TT residence proportion of water consumed
5/1/1960-05/31/1960	31	31	13	2	207	42	165	0	36	905	905	0	0	50	1277	1277	0	0	5	132	132	0	0	0	0	0	0	1	TT leave residence proportion of water consumed
6/1/1960-06/01/1960;	21	21	12	2	133	30	103	0	37	640	640	0	0	53	902	902	0	0	5	92	92	0	0	0	0	0	0	0	HP leave work proportion of water consumed
06/02/1960-06/10/1960	0	9	12	2	19	19	0	0	37	411	411	0	0	53	580	580	0	0	5	59	59	0	0	0	0	0	0		
7/1/1960-7/31/1960	31	31	12	2	198	46	152	0	39	984	984	0	0	55	1388	1388	0	0	5	138	138	0	0	0	0	0	0		
8/1/1960-8/31/1960	31	31	15	2	238	47	190	0	40	1026	1026	0	0	57	1444	1444	0	0	6	142	142	0	0	0	0	0	0		
9/1/1960-9/30/1960	30	30	14	2	216	44	172	0	42	1034	1034	0	0	59	1450	1450	0	0	6	141	141	0	0	0	0	0	0		
10/1/1960-10/31/1960	31	31	13	2	216	51	165	0	44	1111	1111	0	0	61	1554	1554	0	0	6	149	149	0	0	0	0	0	0		
11/1/1960-11/30/1960	30	30	18	2	272	51	221	0	46	1118	1118	0	0	63	1556	1556	0	0	6	141	141	0	0	0	0	0	0		
12/1/1960-12/31/1960	31	31	14	2	229	51	178	0	47	1200	1200	0	0	66	1664	1664	0	0	6	156	156	0	0	0	0	0	0		
1/1/1961-1/31/1961	31	31	16	2	256	53	203	0	49	1246	1246	0	0	68	1716	1716	0	0	6	160	160	0	0	0	0	0	0		
2/1/1961-2/4/1961;	20	20	12	2	134	36	98	0	51	835	835	0	0	70	1138	1138	0	0	6	101	101	0	0	0	0	0	0		
2/5/1961-2/12/1961	0	8	12	2	21	21	0	0	51	501	501	0	0	70	683	683	0	0	6	60	60	0	0	0	0	0	0		
3/1/1961-3/31/1961	31	30	10	2	182	55	127	0	53	1294	1294	0	0	72	1756	1756	0	0	7	162	162	0	0	0	0	0	0		
4/1/1961-4/30/1961	30	30	18	2	278	57	221	0	55	1342	1342	0	0	73	1803	1803	0	0	7	166	166	0	0	0	0	0	0		
5/1/1961-5/8/1961;	22	22	15	3	181	46	135	0	57	1018	1018	0	0	75	1359	1359	0	0	7	125	125	0	0	0	0	0	0		
5/9/1961-5/17/1961	0	9	15	3	28	28	0	0	57	625	625	0	0	75	834	834	0	0	7	76	76	0	0	0	0	0	0		
6/1/1961-6/22/1961	22	22	14	3	174	48	126	0	59	1053	1053	0	0	77	1393	1393	0	0	7	127	127	0	0	0	0	0	0		
6/23/1961-6/30/1961	0	8	14	3	26	26	0	0	59	575	575	0	0	77	760	760	0	0	7	69	69	0	0	0	0	0	0		
7/1/1961-7/31/1961	31	31	14	3	247	70	178	0	60	1532	1532	0	0	79	2012	2012	0	0	7	168	168	0	0	0	0	0	0		
8/1/1961-8/31/1961	31	31	19	3	313	72	241	0	62	1583	1583	0	0	81	2062	2062	0	0	7	187	187	0	0	0	0	0	0		
9/1/1961-9/27/1961	27	27	17	3	245	57	188	0	64	1422	1422	0	0	83	1837	1837	0	0	8	166	166	0	0	0	0	0	0		
	556	**589**			**4,280**	**1,046**	**3,234**			**23,475**	**23,475**	**-**			**32,020**	**32,020**	**-**			**3,022**	**3,022**	**-**			**-**	**-**	**-**		

Chart 4: Day on base and cumulative contaminant exposure concentrations-deposition informed activities

Exposure Dates	Total Days work location HP	Total Days residential location TT	TCE (ug/l-M) HP	TCE (ug/l-M) TT	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	PCE (ug/l-M) HP	PCE (ug/l-M)(TechRow/MP Model) TT	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	PCE (ug/l-M) HP	PCE (ug/l-M)(MT3DMS Model) TT	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	VC (ug/l-M) HP	VC (ug/l-M) TT	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	BZ (ug/l-M) HP	BZ (ug/l-M) TT	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	ingestion (L)	Ingestion exposure notes
2/16/1960-02/29/1960	14	14	11	1	198	42	156	0	31	886	886	0	0	44	1247	1247	0	0	5	138	138	0	0	0	0	0	0	3.046	deposition informed ingestion
3/1/1960-03/31/1960	31	31	9	2	379	96	283	0	33	2051	2051	0	0	46	2898	2898	0	0	5	313	313	0	0	0	0	0	0	0.333	HP work proportion of water consumed
4/1/1960-04/30/1960	30	30	16	2	584	97	487	0	34	2081	2081	0	0	48	2933	2933	0	0	5	311	311	0	0	0	0	0	0	0.667	TT residence proportion of water consumed
5/1/1960-05/31/1960	31	31	13	2	514	105	409	0	36	2246	2246	0	0	50	3171	3171	0	0	5	328	328	0	0	0	0	0	0	1	TT leave residence proportion of water consumed
6/1/1960-06/01/1960;	21	21	12	2	330	74	256	0	37	1588	1588	0	0	53	2239	2239	0	0	5	227	227	0	0	0	0	0	0	0	HP leave work proportion of water consumed
06/02/1960-06/10/1960	0	9	12	2	47	47	0	0	37	1021	1021	0	0	53	1440	1440	0	0	5	146	146	0	0	0	0	0	0		
7/1/1960-7/31/1960	31	31	12	2	491	113	378	0	39	2442	2442	0	0	55	3446	3446	0	0	5	343	343	0	0	0	0	0	0		
8/1/1960-8/31/1960	31	31	15	2	590	118	472	0	40	2546	2546	0	0	57	3586	3586	0	0	6	352	352	0	0	0	0	0	0		
9/1/1960-9/30/1960	30	30	14	2	536	110	426	0	42	2567	2567	0	0	59	3600	3600	0	0	6	349	349	0	0	0	0	0	0		
10/1/1960-10/31/1960	31	31	13	2	536	127	409	0	44	2757	2757	0	0	61	3859	3859	0	0	6	369	369	0	0	0	0	0	0		
11/1/1960-11/30/1960	30	30	18	2	676	127	548	0	46	2776	2776	0	0	63	3864	3864	0	0	6	349	349	0	0	0	0	0	0		
12/1/1960-12/31/1960	31	31	14	2	568	127	441	0	47	2978	2978	0	0	66	4130	4130	0	0	6	387	387	0	0	0	0	0	0		
1/1/1961-1/31/1961	31	31	16	2	635	132	504	0	49	3094	3094	0	0	68	4261	4261	0	0	6	397	397	0	0	0	0	0	0		
2/1/1961-2/4/1961;	20	20	12	2	332	88	244	0	51	2073	2073	0	0	70	2824	2824	0	0	6	250	250	0	0	0	0	0	0		
2/5/1961-2/12/1961	0	8	12	2	53	53	0	0	51	1244	1244	0	0	70	1695	1695	0	0	6	150	150	0	0	0	0	0	0		
3/1/1961-3/31/1961	31	30	10	2	452	137	315	0	53	3212	3212	0	0	72	4360	4360	0	0	7	403	403	0	0	0	0	0	0		
4/1/1961-4/30/1961	30	30	18	2	690	142	548	0	55	3332	3332	0	0	73	4477	4477	0	0	7	412	412	0	0	0	0	0	0		

Exposure estimate from deposition:

time	product	number	volume (ounces ea)	total volume per day
breakfast/lunch	water/soda	2	12	0.709764
breakfast/afternoon/ dinner	coffee	4.5	10	1.3308075
misc	fountain water several times a day and 2x in af	2	12	0.709764
afternoon/dinner	coffee/tea	1	10	0.295735
				0
			Sum	**3.0460705**

5/1/1961-5/8/1961; 5/18/1961-5/31/1961	22	22	15	3	450	115	335	0	57	2527	2527	0	0	75	3373	3373	0	0	7	309	309	0	0	0	0	0	0
5/9/1961-5/17/1961	0	9	15	3	71	71	0	0	57	1551	1551	0	0	75	2070	2070	0	0	7	190	190	0	0	0	0	0	0
6/1/1961-6/22/1961	22	22	14	3	432	119	313	0	59	2615	2615	0	0	77	3457	3457	0	0	7	316	316	0	0	0	0	0	0
6/23/1961-6/30/1961	0	8	14	3	65	65	0	0	59	1426	1426	0	0	77	1886	1886	0	0	7	172	172	0	0	0	0	0	0
7/1/1961-7/31/1961	31	31	14	3	614	173	441	0	60	3804	3804	0	0	79	4996	4996	0	0	7	416	416	0	0	0	0	0	0
8/1/1961-8/31/1961	31	31	19	3	776	178	598	0	62	3929	3929	0	0	81	5119	5119	0	0	7	463	463	0	0	0	0	0	0
9/1/1961-9/27/1961	27	27	17	3	608	141	466	0	64	3531	3531	0	0	83	4561	4561	0	0	8	412	412	0	0	0	0	0	0
	556	**589**			**10,626**	**2,596**	**8,029**			**58,278**	**58,278**	**-**			**79,491**	**79,491**	**-**			**7,502**	**7,502**	**-**			**-**	**-**	**-**

Appendix 7

David William Fancher (Kidney Cancer)

Summed variable totals

		Chart 1: 1L	Chart 2: ATSDR	Chart 3: Deposition/FM
	Cumulative ug/l-M	Cumulative consumption (total ug= days*concentration per L)	Cumulative consumption (total ug= days*concentration per ATSDR exposure assumptions)	Cumulative consumption (total ug= days*concentration per deposition/FM exposure assumptions)
TCE	5,340	92,052	422,266	577,666
PCE	247	4,263	19,535	26,742
VC	351	6,068	27,803	38,065
BZ	99	1,771	8,083	11,095

Exposure Dates	Total Days	Exposure Location (Work)	Exposure Location (Residential)	Total Days	TCE (ug/l-M)	PCE (ug/l-M)	VC (ug/l-M)	BZ (ug/l-M)
10/16/1979-10/31/1979	16	Hadnot Point	Hadnot Point	16	71	3	4	4
11/1/1979-11/20/1979	20	Hadnot Point	Web Apartments (off base)	4.3	507	23	33	6
12/10/1979-12/31/1979	22	Hadnot Point	Web Apartments (off base)	4.7	504	23	33	6
1/1/1980-1/31/1980	31	Hadnot Point	Web Apartments (off base)	6.6	264	12	17	7
2/1/1980-2/29/1980	29	Hadnot Point	Web Apartments (off base)	6.2	378	17	24	6
3/1/1980-3/31/1980	31	Hadnot Point	Web Apartments (off base)	6.6	433	20	28	6
4/1/1980-4/30/1980	30	Hadnot Point	Web Apartments (off base)	6.4	273	12	17	8
5/1/1980-5/8/1980	8	Hadnot Point	Web Apartments (off base)	1.7	322	15	21	6
12/3/1980-12/31/1980	29	Hadnot Point	Hadnot Point	29	541	26	37	6
1/1/1981-1/11/1981	0	Hadnot Point	Hadnot Point	0	295	14	19	8
1/12/1981-1/31/1981	20	Hadnot Point	Hadnot Point	20	295	14	19	8
2/1/1981-2/28/1981	28	Hadnot Point	Hadnot Point	28	387	18	26	7
3/1/1981-3/3/1981	3	Hadnot Point	Hadnot Point	3	397	19	27	6
4/4/1981-4/30/1981	27	Hadnot Point	Hadnot Point	27	266	12	17	9
5/1/1981-5/31/1981	31	Hadnot Point	Hadnot Point	31	322	15	22	7
6/1/1981-6/12/1981	12	Hadnot Point	Hadnot Point	12	380	18	26	7
	337			**203**	**5,340**	**247**	**351**	**99**

Assumptions

Training proportion day	0.666666667
Nontraining proportion day	0.333333333
residential proportion day on training days	0.333333333
residential proportion day on nontraining days	0.666666667

Chart 1: Days on base and cumulative contaminant exposure concentrations (1 L consumption per day)

Total Days (work)	Total Days (residential)	TCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	PCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	VC (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	BZ (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	1L concentration summaries
16	16	71	1,136	3	48	4	64	4	64	1
20	4.3	507	5,587	23	253	33	364	6	66	
22	4.7	504	6,110	23	279	33	400	6	73	
31	6.6	264	4,510	12	205	17	290	7	120	
29	6.2	378	6,040	17	272	24	384	6	96	
31	6.6	433	7,396	20	342	28	478	6	102	
30	6.4	273	4,513	12	198	17	281	8	132	
8	1.7	322	1,419	15	66	21	93	6	26	
29	29	541	15,689	26	754	37	1,073	6	174	
-	-	295	-	14	-	19	-	8	-	
20	20	295	5,900	14	280	19	380	8	160	
28	28	387	10,836	18	504	26	728	7	196	
3	3	397	1,191	19	57	27	81	6	18	
27	27	266	7,182	12	324	17	459	9	243	
31	31	322	9,982	15	465	22	682	7	217	
12	12	380	4,560	18	216	26	312	7	84	
337	**203**	**5,340**	**92,052**	**247**	**4,263**	**351**	**6,068**	**99**	**1,771**	

Chart 2: Days on base and cumulative contaminant exposure concentrations- ATSDR informed

Total Days (work)	Total Days (residential)	TCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per ATSDR exposure assumptions)	PCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per ATSDR exposure assumptions)	VC (ug/l-M)	Cumulative consumption (total ug= days*concentration per ATSDR exposure assumptions)	BZ (ug/l-M)	Cumulative consumption (total ug= days*concentration per ATSDR exposure assumptions)	ATSDR ingestion 6L/day 3 days per week	ATSDR ingestion 6L/day 3 days per week and 3.1L per day 4 days per week
16	16	71	4,933	3	208	4	278	4	278	**6**	**3.1**
20	4.3	507	27,799	23	1,261	33	1,809	6	329		
22	4.7	504	30,398	23	1,387	33	1,990	6	362		
31	6.6	264	22,436	12	1,020	17	1,445	7	595		
29	6.2	378	30,052	17	1,352	24	1,908	6	477		
31	6.6	433	36,799	20	1,700	28	2,380	6	510		
30	6.4	273	22,453	12	987	17	1,398	8	658		
8	1.7	322	7,062	15	329	21	461	6	132		
29	29	541	68,135	26	3,275	37	4,660	6	756		
0	0	295	-	14	-	19	-	8	-		
20	20	295	25,623	14	1,216	19	1,650	8	695		
28	28	387	47,059	18	2,189	26	3,162	7	851		
3	3	397	5,172	19	248	27	352	6	78		
27	27	266	31,190	12	1,407	17	1,993	9	1,055		
31	31	322	43,350	15	2,019	22	2,962	7	942		
12	12	380	19,803	18	938	26	1,355	7	365		
337	**203**	**5,340**	**422,266**	**247**	**19,535**	**351**	**27,803**	**99**	**8,083**		

Chart 3: Days on base and cumulative contaminant exposure concentrations- deposition informed activities and FM 1957-1983 averaged

Total Days (work)	Total Days (residential)	TCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per deposition exposure assumptions)	PCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per deposition exposure assumptions)	VC (ug/l-M)	Cumulative consumption (total ug= days*concentration per deposition exposure assumptions)	BZ (ug/l-M)	Cumulative consumption (total ug= days*concentration per deposition exposure assumptions)	2 days per week training heavy activity from deposition; FM average 1957-1983; moderate day: desert/tropical <80oF	5 days per week light activity from deposition; FM average 1957-1983; moderate day: desert/tropical <80oF
										8.517177	**5.2049415**
16	16	71	6,988	3	295	4	394	4	394		
20	4.3	507	36,165	23	1,641	33	2,354	6	428		
22	4.7	504	39,546	23	1,805	33	2,589	6	471		
31	6.6	264	29,188	12	1,327	17	1,880	7	774		
29	6.2	378	39,096	17	1,758	24	2,482	6	621		
31	6.6	433	47,874	20	2,211	28	3,096	6	663		
30	6.4	273	29,210	12	1,284	17	1,819	8	856		
8	1.7	322	9,187	15	428	21	599	6	171		
29	29	541	96,508	26	4,638	37	6,600	6	1,070		
0	0	295	-	14	-	19	-	8	-		
20	20	295	36,293	14	1,722	19	2,337	8	984		
28	28	387	66,655	18	3,100	26	4,478	7	1,206		
3	3	397	7,326	19	351	27	498	6	111		
27	27	266	44,179	12	1,993	17	2,823	9	1,495		
31	31	322	61,402	15	2,860	22	4,195	7	1,335		
12	12	380	28,050	18	1,329	26	1,919	7	517		
337	**203**	**5,340**	**577,666**	**247**	**26,742**	**351**	**38,065**	**99**	**11,095**		

Appendix 8

Frank W. Mousser Jr. (Kidney Cancer)

Summed variable totals

		Chart 1: 1L	Chart 2: ATSDR	Chart 3: Deposition	Chart 4 Deposition/FM
	Cumulative ug/l-M	Cumulative consumption (total ug= days*concentration per L)	Cumulative consumption (total ug= days*concentration per ATSDR exposure assumptions)	Cumulative consumption (total ug= days*concentration per deposition exposure assumptions)	Cumulative consumption (total ug= days*concentration per deposition/FM exposure assumptions)
TCE	10,373	267,296	1,160,828	788,229	1,771,027
PCE	495	12,752	55,380	37,604	84,491
VC	864	22,391	97,241	66,029	148,356
DCE	227	5,595	24,298	16,499	37,071

Exposure Dates	Total Days	TCE (ug/l-M)	PCE (ug/l-M)	VC (ug/l-M)	BZ (ug/l-M)
10/18/1982-10/31/1982	14	138	6	9	9
11/1/1982-11/26/1982	26	706	34	55	10
12/20/1982-12/31/1982	12	721	35	56	8
1/1/1983-1/31/1983	31	389	19	30	8
4/19/1983-4/30/1983	12	372	18	29	10
5/1/1983-5/30/1983	30	449	22	36	8
6/11/1983-6/30/1983	20	546	27	45	7
7/1/1983-7/31/1983	31	618	30	51	7
8/1/1983-8/31/1983	31	659	32	54	9
9/1/1983-9/30/1983	30	543	26	45	9
10/1/1983-10/17/1983	17	134	5	9	10
2/11/1984-2/29/1984	19	560	27	47	8
3/1/1984-3/31/1984	31	587	28	50	7
4/1/1984-4/30/1984	30	400	18	33	12
5/1/1984-5/31/1984	31	491	23	42	10
6/1/1984-6/30/1984	30	471	22	41	7
7/1/1984-7/31/1984	31	507	24	45	7
8/1/1984-8/31/1984	31	539	26	48	8
9/1/1984-9/5/1984; 9/21/1984-9/30/1984	15	443	21	39	8
10/1/1984-10/31/1984	31	94	3	6	8
11/1/1984-11/30/1984	30	639	31	59	8
12/1/1984-12/2/1984; 12/15/1984-12/31/1984	19	43	2	4	2
1/1/1985-1/22/1985	22	324	16	31	4
8/9/1985-8/31/1985	23	0	0	0	3
9/1/1985-9/19/1985	19	0	0	0	3
10/11/1985-10/31/1985	21	0	0	0	3
11/1/1985-11/30/1985	30	0	0	0	3
12/1/1985-12/31/1985	31	0	0	0	3
1/1/1986-1/12/1986	12	0	0	0	3
2/27/1986-2/28/1986	2	0	0	0	3
3/1/1986-3/31/1986	31	0	0	0	3
4/1/1986-4/30/1986	30	0	0	0	4
5/1/1986-5/31/1986	28	0	0	0	3
6/1/1986-6/30/1986	27	0	0	0	3
7/1/1986-7/31/1986	28	0	0	0	3
8/1/1986-8/31/1986	28	0	0	0	3
9/1/1986-9/7/1986	7	0	0	0	3
	891	10,373	495	864	227

Exposure estimate 3 days per week in field training:

time	product	number	volume (ounces ea)		total volume per day
breakfast	coffee	3	10		0.887205
field	canteens	2	32		1.892704
lunch	bug juice	1	12		0.354882
dinner	bug juice	1	12		0.354882
		Sum			**3.489673**

Exposure estimate 4 days per week not in field training:

time	product	number	volume (ounces ea)		total volume per day
breakfast	coffee	3	10		0.887205
field	canteens	1	32		0.946352
lunch	bug juice	1	12		0.354882
dinner	bug juice	1	12		0.354882
		Sum			**2.543321**

Chart 1: Days on base and cumulative contaminant exposure concentrations (1 L consumption per day)

Total Days	TCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	PCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	VC (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	BZ (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	1L concentration summaries
14	138	1932	6	84	9	126	9	126	1
26	706	18356	34	884	55	1430	10	260	
12	721	8652	35	420	56	672	8	96	
31	389	12059	19	589	30	930	8	248	
12	372	4464	18	216	29	348	10	120	

30	449	13470	22	660	36	1080	8	240
20	546	10920	27	540	45	900	7	140
31	618	19158	30	930	51	1581	7	217
31	659	20429	32	992	54	1674	9	279
30	543	16290	26	780	45	1350	9	270
17	134	2278	5	85	9	153	10	170
19	560	10640	27	513	47	893	8	152
31	587	18197	28	868	50	1550	7	217
30	400	12000	18	540	33	990	12	360
31	491	15221	23	713	42	1302	10	310
30	471	14130	22	660	41	1230	7	210
31	507	15717	24	744	45	1395	7	217
31	539	16709	26	806	48	1488	8	248
15	443	6645	21	315	39	585	8	120
31	94	2914	3	93	6	186	8	248
30	639	19170	31	930	59	1770	8	240
19	43	817	2	38	4	76	2	38
22	324	7128	16	352	31	682	4	88
23	0	0	0	0	0	0	3	69
19	0	0	0	0	0	0	3	57
21	0	0	0	0	0	0	3	63
30	0	0	0	0	0	0	3	90
31	0	0	0	0	0	0	3	93
12	0	0	0	0	0	0	3	36
2	0	0	0	0	0	0	3	6
31	0	0	0	0	0	0	3	93
30	0	0	0	0	0	0	4	120
28	0	0	0	0	0	0	3	84
27	0	0	0	0	0	0	3	81
28	0	0	0	0	0	0	3	84
28	0	0	0	0	0	0	3	84
7	0	0	0	0	0	0	3	21
891	**10,373**	**267,296**	**495**	**12,752**	**864**	**22,391**	**227**	**5,595**

Chart: Days on base and cumulative contaminant exposure concentrations (ATSDR ingestion 6L/day 3 days per week and 3L per day 4 days per week)

Total Days	TCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per ATSDR exposure assumptions)	PCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per ATSDR exposure assumptions)	VC (ug/l-M)	Cumulative consumption (total ug= days*concentration per ATSDR exposure assumptions)	BZ (ug/l-M)	Cumulative consumption (total ug= days*concentration per ATSDR exposure assumptions)	ATSDR ingestion 6L/day 3 days per week	ATSDR ingestion 6L/day 3 days per week and 3.1L per day 4 days per week
14	138	8390	6	365	9	547	9	547	**6**	**3.1**
26	706	79717	34	3839	55	6210	10	1129		
12	721	37574	35	1824	56	2918	8	417		
31	389	52371	19	2558	30	4039	8	1077		
12	372	19387	18	938	29	1511	10	521		
30	449	58498	22	2866	36	4690	8	1042		
20	546	47424	27	2345	45	3909	7	608		
31	618	83200	30	4039	51	6866	7	942		
31	659	88720	32	4308	54	7270	9	1212		
30	543	70745	26	3387	45	5863	9	1173		
17	134	9893	5	369	9	664	10	738		
19	560	46208	27	2228	47	3878	8	660		

31	587	79027	28	3770	50	6731	7	942
30	400	52114	18	2345	33	4299	12	1563
31	491	66103	23	3096	42	5654	10	1346
30	471	61365	22	2866	41	5342	7	912
31	507	68257	24	3231	45	6058	7	942
31	539	72565	26	3500	48	6462	8	1077
15	443	28858	21	1368	39	2541	8	521
31	94	12655	3	404	6	808	8	1077
30	639	83253	31	4039	59	7687	8	1042
19	43	3548	2	165	4	330	2	165
22	324	30956	16	1529	31	2962	4	382
23	0	0	0	0	0	0	3	300
19	0	0	0	0	0	0	3	248
21	0	0	0	0	0	0	3	274
30	0	0	0	0	0	0	3	391
31	0	0	0	0	0	0	3	404
12	0	0	0	0	0	0	3	156
2	0	0	0	0	0	0	3	26
31	0	0	0	0	0	0	3	404
30	0	0	0	0	0	0	4	521
28	0	0	0	0	0	0	3	365
27	0	0	0	0	0	0	3	352
28	0	0	0	0	0	0	3	365
28	0	0	0	0	0	0	3	365
7	0	0	0	0	0	0	3	91
891	**10,373**	**1,160,828**	**495**	**55,380**	**864**	**97,241**	**227**	**24,298**

Chart 3: Days on base and cumulative contaminant exposure concentrations- deposition informed activities

Total Days (work)	TCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per deposition exposure	PCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per deposition exposure	VC (ug/l-M)	Cumulative consumption (total ug= days*concentration per deposition exposure	BZ (ug/l-M)	Cumulative consumption (total ug= days*concentration per deposition exposure	3 days per week training heavy activity from deposition	4 days per week training light activity from deposition
									3.48967	2.54332
14	138	5697	6	248	9	372	9	372		
26	706	54130	34	2607	55	4217	10	767		
12	721	25514	35	1239	56	1982	8	283		
31	389	35561	19	1737	30	2742	8	731		
12	372	13164	18	637	29	1026	10	354		
30	449	39722	22	1946	36	3185	8	708		
20	546	32202	27	1592	45	2654	7	413		
31	618	56495	30	2742	51	4662	7	640		
31	659	60243	32	2925	54	4936	9	823		
30	543	48038	26	2300	45	3981	9	796		
17	134	6718	5	251	9	451	10	501		
19	560	31376	27	1513	47	2633	8	448		
31	587	53661	28	2560	50	4571	7	640		
30	400	35387	18	1592	33	2919	12	1062		
31	491	44885	23	2103	42	3839	10	914		
30	471	41668	22	1946	41	3627	7	619		
31	507	46348	24	2194	45	4114	7	640		
31	539	49273	26	2377	48	4388	8	731		
15	443	19595	21	929	39	1725	8	354		
31	94	8593	3	274	6	548	8	731		

30	639	56530	31	2742	59	5220	8	708
19	43	2409	2	112	4	224	2	112
22	324	21020	16	1038	31	2011	4	260
23	0	0	0	0	0	0	3	203
19	0	0	0	0	0	0	3	168
21	0	0	0	0	0	0	3	186
30	0	0	0	0	0	0	3	265
31	0	0	0	0	0	0	3	274
12	0	0	0	0	0	0	3	106
2	0	0	0	0	0	0	3	18
31	0	0	0	0	0	0	3	274
30	0	0	0	0	0	0	4	354
28	0	0	0	0	0	0	3	248
27	0	0	0	0	0	0	3	239
28	0	0	0	0	0	0	3	248
28	0	0	0	0	0	0	3	248
7	0	0	0	0	0	0	3	62
891	**10,373**	**788,229**	**495**	**37,604**	**864**	**66,029**	**227**	**16,499**

Chart: Days on base and cumulative contaminant exposure concentrations- deposition informed activities; FM 1957-1983 moderate day averages

Total Days (work)	TCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per deposition exposure assumptions)	PCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per deposition exposure assumptions)	VC (ug/l-M)	Cumulative consumption (total ug= days*concentration per deposition exposure assumptions)	BZ (ug/l-M)	Cumulative consumption (total ug= days*concentration per deposition exposure assumptions)	3 days per week training heavy activity from deposition; FM average 1957-1983; moderate day: desert/tropical <80oF	4 days per week training light activity from deposition; FM average 1957-1983; moderate day: desert/tropical <80oF
									8.52	**5.21**
14	138	12801	6	557	9	835	9	835		
26	706	121622	34	5857	55	9475	10	1723		
12	721	57326	35	2783	56	4452	8	636		
31	389	79899	19	3903	30	6162	8	1643		
12	372	29577	18	1431	29	2306	10	795		
30	449	89248	22	4373	36	7156	8	1590		
20	546	72353	27	3578	45	5963	7	928		
31	618	126935	30	6162	51	10475	7	1438		
31	659	135357	32	6573	54	11091	9	1849		
30	543	107933	26	5168	45	8945	9	1789		
17	134	15093	5	563	9	1014	10	1126		
19	560	70498	27	3399	47	5917	8	1007		
31	587	120568	28	5751	50	10270	7	1438		
30	400	79509	18	3578	33	6559	12	2385		
31	491	100850	23	4724	42	8627	10	2054		
30	471	93621	22	4373	41	8150	7	1391		
31	507	104136	24	4930	45	9243	7	1438		
31	539	110709	26	5340	48	9859	8	1643		
15	443	44028	21	2087	39	3876	8	795		
31	94	19307	3	616	6	1232	8	1643		
30	639	127015	31	6162	59	11728	8	1590		
19	43	5413	2	252	4	504	2	252		
22	324	47228	16	2332	31	4519	4	583		
23	0	0	0	0	0	0	3	457		

19	0	0	0	0	0	0	3	378
21	0	0	0	0	0	0	3	417
30	0	0	0	0	0	0	3	596
31	0	0	0	0	0	0	3	616
12	0	0	0	0	0	0	3	239
2	0	0	0	0	0	0	3	40
31	0	0	0	0	0	0	3	616
30	0	0	0	0	0	0	4	795
28	0	0	0	0	0	0	3	557
27	0	0	0	0	0	0	3	537
28	0	0	0	0	0	0	3	557
28	0	0	0	0	0	0	3	557
7	0	0	0	0	0	0	3	139
891	**10,373**	**1,771,027**	**495**	**84,491**	**864**	**148,356**	**227**	**37,071**

Appendix 9

Jacqueline Jordan Tukes (Kidney Cancer)

Summed variable totals

		Chart 1: 1L	Chart 2: ATSDR CTE	Chart 3: ATSDR RME	Chart 4: Deposition Estimates
	Cumulative ug/l-M	Cumulative consumption (total ug= days*concentration per L)	Cumulative consumption (total ug= days*concentration per ATSDR exposure assumptions)	Cumulative consumption (total ug= days*concentration per ATSDR exposure assumptions)	Cumulative consumption (total ug= days*concentration per deposition exposure assumptions)
TCE	3.65	100	107	271	259
PCE (ug/l-M)(TechFlowMP Model)	82.85	2,280	2,437	6,142	5,875
PCE (ug/l-M)(MT3DMS Model)	181.37	4,989	5,335	13,443	12,858
VC	13.04	361	386	974	931
BZ (only at HP)	60.00	678	373	939	898

Exposure Dates	Total Days	Housing Location	Exposure days per week	TCE (ug/l-M)	PCE (ug/l-M)(TechFlowMP Model)	PCE (ug/l-M)(MT3DMS Model)	VC (ug/l-M)	BZ (ug/l-M)	visits to HP (2.5 days per week when living elsewhere)	Exposure days per week	TCE (ug/l-M)	PCE (ug/l-M)	VC (ug/l-M)	BZ (ug/l-M)	Calculated total exposure days HP
6/18/1985-6/30/1985	13	Hadnot Point							Hadnot Point	7	0.00	0.00	0.00	3.00	13
7/1/1985-7/18/1985	18	Hadnot Point							Hadnot Point	7	0.00	0.00	0.00	3.00	18
7/19/1985-7/31/1985	13	Sherwood Mobile Home Park							Hadnot Point	2.5	0.00	0.00	0.00	3.00	5
8/1/1985-8/31/1985	31	Sherwood Mobile Home Park							Hadnot Point	2.5	0.00	0.00	0.00	3.00	11
9/1/1985-9/30/1985	30	Sherwood Mobile Home Park							Hadnot Point	2.5	0.00	0.00	0.00	3.00	11
10/1/1985-10/31/1985	31	Sherwood Mobile Home Park							Hadnot Point	2.5	0.00	0.00	0.00	3.00	11
11/1/1985-11/30/1985	30	Sherwood Mobile Home Park							Hadnot Point	2.5	0.00	0.00	0.00	3.00	11
12/1/1985-12/17/1985	17	Sherwood Mobile Home Park							Hadnot Point	2.5	0.00	0.00	0.00	3.00	6
12/18/1985-12/31/1985	14	Tarawa Terrace	7	0.16	3.58	8.27	0.76	0.00	Hadnot Point	2.5	0.00	0.00	0.00	3.00	5
1/1/1986-1/31/1986	31	Tarawa Terrace	7	0.18	3.95	8.85	0.82	0.00	Hadnot Point	2.5	0.00	0.00	0.00	3.00	11
2/1/1986-2/28/1986	28	Tarawa Terrace	7	0.19	4.24	9.42	0.83	0.00	Hadnot Point	2.5	0.00	0.00	0.00	3.00	10
3/1/1986-3/31/1986	31	Tarawa Terrace	7	0.24	5.40	12.14	1.01	0.00	Hadnot Point	2.5	0.00	0.00	0.00	3.00	11
4/1/1986-4/30/1986	30	Tarawa Terrace	7	0.22	4.93	10.83	0.89	0.00	Hadnot Point	2.5	0.00	0.00	0.00	4.00	11
5/1/1986-5/31/1986	31	Tarawa Terrace	7	0.23	5.25	11.56	0.91	0.00	Hadnot Point	2.5	0.00	0.00	0.00	3.00	11
6/1/1986-6/30/1986	30	Tarawa Terrace	7	0.25	5.61	12.28	0.92	0.00	Hadnot Point	2.5	0.00	0.00	0.00	3.00	11
7/1/1986-7/31/1986	31	Tarawa Terrace	7	0.26	5.97	13.06	0.94	0.00	Hadnot Point	2.5	0.00	0.00	0.00	3.00	11
8/1/1986-8/31/1986	31	Tarawa Terrace	7	0.28	6.36	13.84	0.96	0.00	Hadnot Point	2.5	0.00	0.00	0.00	3.00	11
9/1/1986-9/301986	30	Tarawa Terrace	7	0.30	6.75	14.61	0.97	0.00	Hadnot Point	2.5	0.00	0.00	0.00	3.00	11
10/1/1986-10/31/1986	31	Tarawa Terrace	7	0.31	7.12	15.42	0.99	0.00	Hadnot Point	2.5	0.00	0.00	0.00	3.00	11
11/1/1986-11/30/1986	30	Tarawa Terrace	7	0.33	7.52	16.21	1.00	0.00	Hadnot Point	2.5	0.00	0.00	0.00	3.00	11
12/1/1986-12/31/1986	31	Tarawa Terrace	7	0.34	7.89	17.03	1.01	0.00	Hadnot Point	2.5	0.00	0.00	0.00	3.00	11
1/1/1987-1/8/1987	8	Tarawa Terrace	7	0.36	8.28	17.85	1.03	0.00	Hadnot Point	2.5	0.00	0.00	0.00	2.00	3
				3.65	**82.85**	**181.37**	**13.04**	-			-	-	-	**60.00**	**223.50**

TC exposure days	387
HP total days with full or partial exposure	570
Calculated HP exposure days	224

Chart 1 Days on base and cumulative contaminant exposure concentrations (1 L consumption per day)

Exposure Dates	Total Days	TCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	PCE (ug/l-M)(TechFlowMP Model)	Cumulative consumption (total ug= days*concentration per L)	PCE (ug/l-M)(MT3DMS Model)	Cumulative consumption (total ug= days*concentration per L)	VC (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	BZ (ug/l-M) TT	Cumulative consumption (total ug= days*concentration per L)	1L concentration summaries	BZ (ug/l-M) HP	Cumulative consumption (total ug= days*concentration per L)	HP days/visits per week; lunchtime proportionate volume; 1 L consumption
												1			1
6/18/1985-6/30/1985	13												3	39	7.0
7/1/1985-7/18/1985	18												3	54	7.0
7/19/1985-7/31/1985	13												3	14	2.5
8/1/1985-8/31/1985	31												3	33	2.5
9/1/1985-9/30/1985	30												3	32	2.5
10/1/1985-10/31/1985	31												3	33	2.5
11/1/1985-11/30/1985	30												3	32	2.5
12/1/1985-12/17/1985	17												3	18	2.5
12/18/1985-12/31/1985	14	0.16	2.24	3.58	50.12	8.27	115.78	0.76	10.64	0.00	0.00		3	15	2.5
1/1/1986-1/31/1986	31	0.18	5.58	3.95	122.45	8.85	274.35	0.82	25.42	0.00	0.00		3	33	2.5
2/1/1986-2/28/1986	28	0.19	5.32	4.24	118.72	9.42	263.76	0.83	23.24	0.00	0.00		3	30	2.5
3/1/1986-3/31/1986	31	0.24	7.44	5.40	167.40	12.14	376.34	1.01	31.31	0.00	0.00		3	33	2.5
4/1/1986-4/30/1986	30	0.22	6.60	4.93	147.90	10.83	324.90	0.89	26.70	0.00	0.00		4	43	2.5
5/1/1986-5/31/1986	31	0.23	7.13	5.25	162.75	11.56	358.36	0.91	28.21	0.00	0.00		3	33	2.5
6/1/1986-6/30/1986	30	0.25	7.50	5.61	168.30	12.28	368.40	0.92	27.60	0.00	0.00		3	32	2.5
7/1/1986-7/31/1986	31	0.26	8.06	5.97	185.07	13.06	404.86	0.94	29.14	0.00	0.00		3	33	2.5
8/1/1986-8/31/1986	31	0.28	8.68	6.36	197.16	13.84	429.04	0.96	29.76	0.00	0.00		3	33	2.5
9/1/1986-9/301986	30	0.30	9.00	6.75	202.50	14.61	438.30	0.97	29.10	0.00	0.00		3	32	2.5
10/1/1986-10/31/1986	31	0.31	9.61	7.12	220.72	15.42	478.02	0.99	30.69	0.00	0.00		3	33	2.5
11/1/1986-11/30/1986	30	0.33	9.90	7.52	225.60	16.21	486.30	1.00	30.00	0.00	0.00		3	32	2.5
12/1/1986-12/31/1986	31	0.34	10.54	7.89	244.59	17.03	527.93	1.01	31.31	0.00	0.00		3	33	2.5
1/1/1987-1/8/1987	8	0.36	2.88	8.28	66.24	17.85	142.80	1.03	8.24	0.00	0.00		2	6	2.5
			100		**2,280**		**4,989**		**361**		-			**678**	

days per week visits

Exposure estimate civilian from deposition visiting husbar 2.5

time	product	number	volume (ounces ea)	total volume per day
breakfast	water	0	12	0
lunch	water/kool aid/te	2	12	0.709764
misc	fountain water	1	12	0.354882
afternoon	tea	0	10	0
dinner	water	0	12	0
		Sum		**1.064646**

Exposure estimate civilian from deposition:

time	product	number	volume (ounces ea)	total volume per day
breakfast	water	2.5	12	0.887205
lunch	water/kool aid/te	2	12	0.709764
misc	fountain water	1	12	0.354882
afternoon	tea	1	10	0.295735
dinner	water	2	12	0.709764
		Sum		**2.95735**
lunch ingestion proportion of total				**0.36**

ATSDR/EPA EFH	**Central tendency exposure (CTE) L/day**	**Reasonable maximum exposure (RME) L/day**
Adult resident/civilian worker	1.227	3.092

Chart 2: Days on base and cumulative contaminant exposure concentrations (ATSDR/EPA EFH civilian ingestion CTE L per day adjusted for HP base visits when not in residence)

Exposure Dates	Total Days	TCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	PCE (ug/l-M)(TechFlowMP Model)	Cumulative consumption (total ug= days*concentration per L)	PCE(ug/l-M)(MT3DMS Model)	Cumulative consumption (total ug= days*concentration per L)	VC (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	BZ (ug/l-M) TT	Cumulative consumption(total ug= days*concentration per L)	Total volume consumed during HP lunch visits (L)	ATSDR ingestion CTE L/day 7 days per week	BZ (ug/l-M) HP	Cumulative consumption (total ug= days*concentration per L)	HP days/visits per week; lunchtime proportionate volume consumed of total
													1.227			0.36
6/18/1985-6/30/1985	13													3	47.85	7.0
7/1/1985-7/18/1985	18													3	66.26	7.0
7/19/1985-7/31/1985	13													3	6.15	2.5
8/1/1985-8/31/1985	31													3	14.67	2.5
9/1/1985-9/30/1985	30													3	14.20	2.5
10/1/1985-10/31/1985	31													3	14.67	2.5
11/1/1985-11/30/1985	30													3	14.20	2.5
12/1/1985-12/17/1985	17													3	8.05	2.5
12/18/1985-12/31/1985	14	0.16	2.40	3.58	53.59	8.27	123.80	0.76	11.38	0.00	0.00	2.21		3	6.63	2.5
1/1/1986-1/31/1986	31	0.18	5.97	3.95	130.93	8.85	293.35	0.82	27.18	0.00	0.00	4.89		3	14.67	2.5
2/1/1986-2/28/1986	28	0.19	5.69	4.24	126.94	9.42	282.02	0.83	24.85	0.00	0.00	4.42		3	13.25	2.5
3/1/1986-3/31/1986	31	0.24	7.96	5.40	178.99	12.14	402.40	1.01	33.48	0.00	0.00	4.89		3	14.67	2.5
4/1/1986-4/30/1986	30	0.22	7.06	4.93	158.14	10.83	347.40	0.89	28.55	0.00	0.00	4.73		4	18.93	2.5
5/1/1986-5/31/1986	31	0.23	7.62	5.25	174.02	11.56	383.17	0.91	30.16	0.00	0.00	4.89		3	14.67	2.5
6/1/1986-6/30/1986	30	0.25	8.02	5.61	179.95	12.28	393.91	0.92	29.51	0.00	0.00	4.73		3	14.20	2.5
7/1/1986-7/31/1986	31	0.26	8.62	5.97	197.88	13.06	432.89	0.94	31.16	0.00	0.00	4.89		3	14.67	2.5
8/1/1986-8/31/1986	31	0.28	9.28	6.36	210.81	13.84	458.75	0.96	31.82	0.00	0.00	4.89		3	14.67	2.5
9/1/1986-9/301986	30	0.30	9.62	6.75	216.52	14.61	468.65	0.97	31.11	0.00	0.00	4.73		3	14.20	2.5
10/1/1986-10/31/1986	31	0.31	10.28	7.12	236.00	15.42	511.12	0.99	32.82	0.00	0.00	4.89		3	14.67	2.5
11/1/1986-11/30/1986	30	0.33	10.59	7.52	241.22	16.21	519.97	1.00	32.08	0.00	0.00	4.73		3	14.20	2.5
12/1/1986-12/31/1986	31	0.34	11.27	7.89	261.53	17.03	564.49	1.01	33.48	0.00	0.00	4.89		3	14.67	2.5
1/1/1987-1/8/1987	8	0.36	3.08	8.28	70.83	17.85	152.69	1.03	8.81	0.00	0.00	1.26		2	2.52	2.5
			107		**2,437**		**5,335**		**386**		**-**				**373**	

Chart 3: Days on base and cumulative contaminant exposure concentrations (ATSDR/EPA EFH civilian ingestion RME L per day adjusted for HP base visits when not in residence)

Exposure Dates	Total Days	TCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	PCE (ug/l-M)(TechFlowMP Model)	Cumulative consumption (total ug= days*concentration per L)	PCE(ug/l-M)(MT3DMS Model)	Cumulative consumption (total ug= days*concentration per L)	VC (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	BZ (ug/l-M) TT	Cumulative consumption(total ug= days*concentration per L)	Total volume consumed during HP lunch visits (L)	ATSDR ingestion RME L/day 7 days per week	BZ (ug/l-M) HP	Cumulative consumption (total ug= days*concentration per L)	HP days/visits per week; lunchtime proportionate volume consumed of total
													3.092			0.36
6/18/1985-6/30/1985	13													3	120.59	7.0
7/1/1985-7/18/1985	18													3	166.97	7.0
7/19/1985-7/31/1985	13													3	15.50	2.5
8/1/1985-8/31/1985	31													3	36.97	2.5
9/1/1985-9/30/1985	30													3	35.78	2.5
10/1/1985-10/31/1985	31													3	36.97	2.5
11/1/1985-11/30/1985	30													3	35.78	2.5
12/1/1985-12/17/1985	17													3	20.27	2.5
12/18/1985-12/31/1985	14	0.16	6.04	3.58	135.05	8.27	311.96	0.76	28.67	0.00	0.00	5.57		3	16.70	2.5
1/1/1986-1/31/1986	31	0.18	15.04	3.95	329.94	8.85	739.22	0.82	68.49	0.00	0.00	12.32		3	36.97	2.5
2/1/1986-2/28/1986	28	0.19	14.33	4.24	319.89	9.42	710.69	0.83	62.62	0.00	0.00	11.13		3	33.39	2.5
3/1/1986-3/31/1986	31	0.24	20.05	5.40	451.05	12.14	1014.03	1.01	84.36	0.00	0.00	12.32		3	36.97	2.5
4/1/1986-4/30/1986	30	0.22	17.78	4.93	398.51	10.83	875.43	0.89	71.94	0.00	0.00	11.93		4	47.71	2.5
5/1/1986-5/31/1986	31	0.23	19.21	5.25	438.52	11.56	965.59	0.91	76.01	0.00	0.00	12.32		3	36.97	2.5
6/1/1986-6/30/1986	30	0.25	20.21	5.61	453.48	12.28	992.64	0.92	74.37	0.00	0.00	11.93		3	35.78	2.5
7/1/1986-7/31/1986	31	0.26	21.72	5.97	498.66	13.06	1090.88	0.94	78.52	0.00	0.00	12.32		3	36.97	2.5
8/1/1986-8/31/1986	31	0.28	23.39	6.36	531.24	13.84	1156.03	0.96	80.19	0.00	0.00	12.32		3	36.97	2.5
9/1/1986-9/301986	30	0.30	24.25	6.75	545.63	14.61	1180.98	0.97	78.41	0.00	0.00	11.93		3	35.78	2.5
10/1/1986-10/31/1986	31	0.31	25.89	7.12	594.72	15.42	1288.00	0.99	82.69	0.00	0.00	12.32		3	36.97	2.5
11/1/1986-11/30/1986	30	0.33	26.68	7.52	607.87	16.21	1310.31	1.00	80.83	0.00	0.00	11.93		3	35.78	2.5
12/1/1986-12/31/1986	31	0.34	28.40	7.89	659.04	17.03	1422.48	1.01	84.36	0.00	0.00	12.32		3	36.97	2.5
1/1/1987-1/8/1987	8	0.36	7.76	8.28	178.48	17.85	384.77	1.03	22.20	0.00	0.00	3.18		2	6.36	2.5
			271		**6,142**		**13,443**		**974**		**-**				**939**	

Chart 4: Days on base and cumulative contaminant exposure concentrations- deposition informed activities

Exposure Dates	Total Days	TCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	PCE (ug/l-M)(TechFlowMP Model)	Cumulative consumption (total ug= days*concentration per L)	PCE (ug/l-M)(MT3DMS Model)	Cumulative consumption (total ug= days*concentration per L)	VC (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	BZ (ug/l-M) TT	Cumulative consumption (total ug= days*concentration per L)	Total volume consumed during HP lunch visits (L)	Deposition consumption summary	BZ (ug/l-M) HP	Cumulative consumption (total ug= days*concentration per L)	Deposition summary of HP days/visits per week; lunchtime proportionate volume consumed of total
													2.96			0.36
6/1/1985-6/30/1985	13													3	115.34	7.0
7/1/1985-7/18/1985	18													3	159.70	7.0
7/19/1985-7/31/1985	13													3	14.83	2.5
8/1/1985-8/31/1985	31													3	35.36	2.5
9/1/1985-9/30/1985	30													3	34.22	2.5
10/1/1985-10/31/1985	31													3	35.36	2.5
11/1/1985-11/30/1985	30													3	34.22	2.5
12/1/1985-12/17/1985	17													3	19.39	2.5
12/18/1985-12/31/1985	14	0.16	5.77	3.58	129.17	8.27	298.38	0.76	27.42	0.00	0.00	5.32		3	15.97	2.5
1/1/1986-1/31/1986	31	0.18	14.38	3.95	315.57	8.85	707.03	0.82	65.51	0.00	0.00	11.79		3	35.36	2.5
2/1/1986-2/28/1986	28	0.19	13.71	4.24	305.96	9.42	679.74	0.83	59.89	0.00	0.00	10.65		3	31.94	2.5
3/1/1986-3/31/1986	31	0.24	19.17	5.40	431.41	12.14	969.87	1.01	80.69	0.00	0.00	11.79		3	35.36	2.5
4/1/1986-4/30/1986	30	0.22	17.01	4.93	381.16	10.83	837.31	0.89	68.81	0.00	0.00	11.41		4	45.63	2.5
5/1/1986-5/31/1986	31	0.23	18.37	5.25	419.43	11.56	923.54	0.91	72.70	0.00	0.00	11.79		3	35.36	2.5
6/1/1986-6/30/1986	30	0.25	19.33	5.61	433.73	12.28	949.41	0.92	71.13	0.00	0.00	11.41		3	34.22	2.5
7/1/1986-7/31/1986	31	0.26	20.77	5.97	476.95	13.06	1043.37	0.94	75.10	0.00	0.00	11.79		3	35.36	2.5
8/1/1986-8/31/1986	31	0.28	22.37	6.36	508.10	13.84	1105.69	0.96	76.70	0.00	0.00	11.79		3	35.36	2.5
9/1/1986-9/301986	30	0.30	23.19	6.75	521.87	14.61	1129.55	0.97	74.99	0.00	0.00	11.41		3	34.22	2.5
10/1/1986-10/31/1986	31	0.31	24.77	7.12	568.82	15.42	1231.91	0.99	79.09	0.00	0.00	11.79		3	35.36	2.5
11/1/1986-11/30/1986	30	0.33	25.51	7.52	581.40	16.21	1253.25	1.00	77.31	0.00	0.00	11.41		3	34.22	2.5
12/1/1986-12/31/1986	31	0.34	27.16	7.89	630.34	17.03	1360.54	1.01	80.69	0.00	0.00	11.79		3	35.36	2.5
1/1/1987-1/8/1987	8	0.36	7.42	8.28	170.71	17.85	368.01	1.03	21.24	0.00	0.00	3.04		2	6.08	2.5
			258.95		**5874.59**		**12857.61**		**931.27**		**0.00**				**898**	

Appendix 10

Allan Wayne Howard (Kidney Cancer, Non-Hodgkin's Lymphoma)

Summed variable totals

		Chart 1: 1L	Chart 2: ATSDR	Chart 3: Deposition	Chart 4 Deposition/FM
	Cumulative ug/l-M	Cumulative consumption (total ug= days*concentration per L)	Cumulative consumption (total ug= days*concentration per ATSDR exposure assumptions)	Cumulative consumption (total ug= days*concentration per deposition exposure assumptions)	Cumulative consumption (total ug= days*concentration per deposition/FM exposure assumptions)
TCE	5,937	153,943	668,552	660,782	1,019,982
PCE	251	6,472	28,107	27,780	42,882
VC	343	8,859	38,473	38,026	58,697
BZ	70	1,831	7,952	7,859	12,132

Exposure Dates	Total Days	Exposure Location (Work and Residential)	TCE (ug/l-M)	PCE (ug/l-M)	VC (ug/l-M)	BZ (ug/l-M)
9/4/1977-9/30/1977	27	Hadnot Point	338	13	18	4
10/1/1977-10/31/1977	31	Hadnot Point	69	2	3	4
11/1/1977-11/18/1977, 11/29/1977-11/30/1977	20	Hadnot Point	544	22	30	4
12/1/1977-12/31/1977	31	Hadnot Point	513	21	28	4
1/1/1978-1/31/1978	31	Hadnot Point	250	10	14	4
3/7/1978-3/31/1978	25	Hadnot Point	352	15	20	3
4/1/1978-4/30/1978	30	Hadnot Point	231	9	13	5
5/1/1978-5/31/1978	31	Hadnot Point	278	12	16	4
6/1/1978-6/30/1978	30	Hadnot Point	333	14	19	3
7/1/1978-7/13/1978, 7/29/1978-7/31/1978	16	Hadnot Point	388	17	23	3
8/1/1978-8/31/1978	31	Hadnot Point	475	20	28	4
9/1/1978-9/30/1978	30	Hadnot Point	364	16	22	4
10/1/1978-10/31/1978	31	Hadnot Point	74	3	4	4
11/1/1978-11/30/1978	30	Hadnot Point	544	24	33	5
12/1/1978-12/28/1978	28	Hadnot Point	546	24	33	4
1/13/1979-1/31/1979	19	Hadnot Point	268	12	16	6
2/1/1979-2/8/1979	8	Hadnot Point	370	17	23	5
	449		5,937	251	343	70

Exposure estimate 3 days per week in field training:

time	product	number	volume (ounces ea)	total volume per day
breakfast	bug juice/water	2	12	0.709764
field	canteens	4	32	3.785408
lunch	water	2	12	0.709764
dinner	water	2	12	0.709764
		Sum		**5.9147**

Exposure estimate 4 days per week not in field training:

time	product	number	volume (ounces ea)	total volume per day
breakfast	bug juice/water	2	12	0.709764
field	canteens	1	32	0.946352
lunch	water	2	12	0.709764
dinner	water	2	12	0.709764
		Sum		**3.075644**

Chart 1: Days on base and cumulative contaminant exposure concentrations (1 L consumption per day)

Total Days	TCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	PCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	VC (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	BZ (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	1L concentration summaries
27	338	9126	13	351	18	486	4	108	1
31	69	2139	2	62	3	93	4	124	
20	544	10880	22	440	30	600	4	80	
31	513	15903	21	651	28	868	4	124	
31	250	7750	10	310	14	434	4	124	
25	352	8800	15	375	20	500	3	75	
30	231	6930	9	270	13	390	5	150	
31	278	8618	12	372	16	496	4	124	
30	333	9990	14	420	19	570	3	90	
16	388	6208	17	272	23	368	3	48	
31	475	14725	20	620	28	868	4	124	
30	364	10920	16	480	22	660	4	120	
31	74	2294	3	93	4	124	4	124	
30	544	16320	24	720	33	990	5	150	
28	546	15288	24	672	33	924	4	112	
19	268	5092	12	228	16	304	6	114	

8	370	2960	17	136	23	184	5	40
449	**5,937**	**153,943**	**251**	**6,472**	**343**	**8,859**	**70**	**1,831**

Chart 2: Days on base and cumulative contaminant exposure concentrations (ATSDR ingestion 6L/day 3 days per week and 3L per day 4 days per week)

Total Days	TCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per ATSDR exposure assumptions)	PCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per ATSDR exposure assumptions)	VC (ug/l-M)	Cumulative consumption (total ug= days*concentration per ATSDR exposure assumptions)	BZ (ug/l-M)	Cumulative consumption (total ug= days*concentration per ATSDR exposure assumptions)	ATSDR ingestion 6L/day 3 days per week	ATSDR ingestion 6L/day 3 days per week and 3L per day 4 days per week
27	338	39633	13	1524	18	2111	4	469	**6**	**3.1**
31	69	9289	2	269	3	404	4	539		
20	544	47250	22	1911	30	2606	4	347		
31	513	69064	21	2827	28	3770	4	539		
31	250	33657	10	1346	14	1885	4	539		
25	352	38217	15	1629	20	2171	3	326		
30	231	30096	9	1173	13	1694	5	651		
31	278	37427	12	1616	16	2154	4	539		
30	333	43385	14	1824	19	2475	3	391		
16	388	26960	17	1181	23	1598	3	208		
31	475	63949	20	2693	28	3770	4	539		
30	364	47424	16	2085	22	2866	4	521		
31	74	9963	3	404	4	539	4	539		
30	544	70875	24	3127	33	4299	5	651		
28	546	66394	24	2918	33	4013	4	486		
19	268	22114	12	990	16	1320	6	495		
8	370	12855	17	591	23	799	5	174		
449	**5,937**	**668,552**	**251**	**28,107**	**343**	**38,473**	**70**	**7,952**		

Chart 3: Days on base and cumulative contaminant exposure concentrations- deposition informed activities

Total Days (work)	TCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per deposition exposure	PCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per deposition exposure	VC (ug/l-M)	Cumulative consumption (total ug= days*concentration per deposition exposure	BZ (ug/l-M)	Cumulative consumption (total ug= days*concentration per deposition exposure	3 days per week training heavy activity from deposition	4 days per week training light activity from deposition
									5.91470	**3.07564**
27	338	39172	13	1507	18	2086	4	464		
31	69	9181	2	266	3	399	4	532		
20	544	46701	22	1889	30	2575	4	343		
31	513	68262	21	2794	28	3726	4	532		
31	250	33266	10	1331	14	1863	4	532		
25	352	37773	15	1610	20	2146	3	322		
30	231	29746	9	1159	13	1674	5	644		
31	278	36992	12	1597	16	2129	4	532		
30	333	42881	14	1803	19	2447	3	386		
16	388	26647	17	1168	23	1580	3	206		
31	475	63205	20	2661	28	3726	4	532		

30	364	46873	16	2060	22	2833	4	515
31	74	9847	3	399	4	532	4	532
30	544	70052	24	3091	33	4249	5	644
28	546	65622	24	2884	33	3966	4	481
19	268	21857	12	979	16	1305	6	489
8	370	12705	17	584	23	790	5	172
449	**5,937**	**660,782**	**251**	**27,780**	**343**	**38,026**	**70**	**7,859**

Charts: Days on base and cumulative contaminant exposure concentrations- deposition informed activities; FM 1957-1983 moderate day averages

Total Days (work)	TCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per deposition exposure assumptions)	PCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per deposition exposure assumptions)	VC (ug/l-M)	Cumulative consumption (total ug= days*concentration per deposition exposure assumptions)	BZ (ug/l-M)	Cumulative consumption (total ug= days*concentration per deposition exposure assumptions)	3 days per week training heavy activity from deposition; FM average 1957-1983; moderate day: desert/tropical <80oF	4 days per week training light activity from deposition; FM average 1957-1983; moderate day: desert/tropical <80oF
									8.52	**5.21**
27	338	60466	13	2326	18	3220	4	716		
31	69	14172	2	411	3	616	4	822		
20	544	72088	22	2915	30	3975	4	530		
31	513	105369	21	4313	28	5751	4	822		
31	250	51349	10	2054	14	2876	4	822		
25	352	58306	15	2485	20	3313	3	497		
30	231	45916	9	1789	13	2584	5	994		
31	278	57100	12	2465	16	3286	4	822		
30	333	66191	14	2783	19	3777	3	596		
16	388	41132	17	1802	23	2438	3	318		
31	475	97564	20	4108	28	5751	4	822		
30	364	72353	16	3180	22	4373	4	795		
31	74	15199	3	616	4	822	4	822		
30	544	108132	24	4771	33	6559	5	994		
28	546	101294	24	4452	33	6122	4	742		
19	268	33738	12	1511	16	2014	6	755		
8	370	19612	17	901	23	1219	5	265		
449	**5,937**	**1,019,982**	**251**	**42,882**	**343**	**58,697**	**70**	**12,132**		

Appendix 11

Karen Marie Amsler (Leukemia)

Summed variable totals

		Chart 1: 1L	Chart 2: ATSDR RME (3-6; 6-16 averaged)	Chart 3: ATSDR CTE (3-6; 6-16 averaged)
	Cumulative ug/l-M	Cumulative consumption (total ug= days*concentration per L)	Cumulative consumption (total ug= days*concentration per ATSDR RME exposure assumptions)	Cumulative consumption (total ug= days*concentration per ATSDR CTE exposure assumptions)
TCE	496	10,631	13,786	4,841
BZ	20	430	560	220

Finished Water Concentration [µg/L]					Hadnot Point	Hadnot Point	Hadnot Point	Hadnot Point
Exposure Period Start	**Exposure Period End**	**Week Days**	**Weekend**	**Total Days**	**TCE**	**PCE**	**VC**	**BZ**
10/19/1965	10/31/1965	9	4	13	23	0	0	1
11/1/1965	11/30/1965	22	8	30	23	0	0	1
12/1/1965	12/31/1965	23	8	31	21	0	0	1
1/1/1966	1/31/1966	21	10	31	21	0	0	1
2/1/1966	2/28/1966	20	8	28	22	0	0	1
3/1/1966	3/31/1966	23	8	31	19	0	0	0
4/1/1966	4/30/1966	21	9	30	26	0	0	1
5/1/1966	5/24/1966	17	7	24	21	0	0	1
5/25/1966	5/31/1966	5	2	7	21	0	0	1
6/1/1966	6/30/1966	22	8	30	21	0	0	1
7/1/1966	7/31/1966	21	10	31	21	0	0	1
8/1/1966	8/31/1966	23	8	31	26	0	0	1
9/1/1966	9/30/1966	22	8	30	23	0	0	1
10/1/1966	10/31/1966	21	10	31	25	0	0	1
11/1/1966	11/30/1966	22	8	30	26	0	0	1
12/1/1966	12/31/1966	22	9	31	26	0	0	1
1/1/1967	1/31/1967	22	9	31	25	0	0	1
2/1/1967	2/28/1967	20	8	28	26	0	0	1
3/1/1967	3/31/1967	23	8	31	23	0	0	1
4/1/1967	4/30/1967	20	10	30	30	0	0	1
5/1/1967	5/31/1967	23	8	31	24	0	0	1
6/1/1967	6/5/1967	3	2	5	24	0	0	1
		425	**170**	**595**				
Total µg/L-Months					**496**	0	0	**20**

Chart 1: Days on base and cumulative contaminant exposure concentrations (1 L consumption per day)

Exposure Period Start	Exposure Period End	Week Days	Weekend	Total Days	TCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	BZ (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	1L concentration summaries	
10/19/1965	10/31/1965	9	4	13	23	85	1	4	1	
11/1/1965	11/30/1965	22	8	30	23	197	1	9		
12/1/1965	12/31/1965	23	8	31	21	186	1	9		
1/1/1966	1/31/1966	21	10	31	21	186	1	9		
2/1/1966	2/28/1966	20	8	28	22	176	1	8	2	days per week
3/1/1966	3/31/1966	23	8	31	19	168	0	0		
4/1/1966	4/30/1966	21	9	30	26	223	1	9		
5/1/1966	5/24/1966	17	7	24	21	144	1	7		
5/25/1966	5/31/1966	5	2	7	21	147	1	7		
6/1/1966	6/30/1966	22	8	30	21	630	1	30	7	days per week
7/1/1966	7/31/1966	21	10	31	21	651	1	31		
8/1/1966	8/31/1966	23	8	31	26	806	1	31		
9/1/1966	9/30/1966	22	8	30	23	690	1	30		
10/1/1966	10/31/1966	21	10	31	25	775	1	31		
11/1/1966	11/30/1966	22	8	30	26	780	1	30		
12/1/1966	12/31/1966	22	9	31	26	806	1	31		
1/1/1967	1/31/1967	22	9	31	25	775	1	31		
2/1/1967	2/28/1967	20	8	28	26	728	1	28		
3/1/1967	3/31/1967	23	8	31	23	713	1	31		
4/1/1967	4/30/1967	20	10	30	30	900	1	30		
5/1/1967	5/31/1967	23	8	31	24	744	1	31		
6/1/1967	6/5/1967	3	2	5	24	120	1	5		
						10,631		**430**		

Chart 2: Days on base and cumulative contaminant exposure concentrations (ATSDR RME ave ingestion age 3-6, age 6-16 years)

Total Days	TCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	BZ (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	EPA EFH ranges: 3-<6 age; 6-16 Amsler ages 5, 6, 7 averaged dose	RME (L/day); portion of hours consuming
13	23	21	1	1	0.977	1.45
30	23	48	1	2	1.690	0.17
31	21	45	1	2	1.690	
31	21	45	1	2		
28	22	43	1	2	2	days per week
31	19	41	0	0		
30	26	54	1	2		
24	21	35	1	2		
7	21	213	1	10		
30	21	915	1	44	7	days per week
31	21	945	1	45		
31	26	1171	1	45		
30	23	1002	1	44		
31	25	1126	1	45		
30	26	1133	1	44		
31	26	1171	1	45		
31	25	1126	1	45		
28	26	1057	1	41		
31	23	1036	1	45		
30	30	1307	1	44		
31	24	1081	1	45		
5	24	174	1	7		
		13,786		**560**		

Chart 3: Days on base and cumulative contaminant exposure concentrations (ATSDR CTE ave ingestion age 3-6, age 6-16 years)

Total Days	TCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	BZ (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	3-6 age; 6-16	CTE (L/day)
13	23	7	1	2	0.382	0.510
30	23	17	1	4	0.574	0.17
31	21	16	1	5	0.574	
31	21	16	1	5		
28	22	15	1	4	2	days per week
31	19	14	0	0		
30	26	19	1	4		
24	21	12	1	3		
7	21	75	1	4		
30	21	321	1	15	7	days per week
31	21	332	1	16		
31	26	411	1	16		
30	23	352	1	15		
31	25	395	1	16		
30	26	398	1	15		
31	26	411	1	16		
31	25	395	1	16		
28	26	371	1	14		
31	23	364	1	16		
30	30	459	1	15		
31	24	379	1	16		
5	24	61	1	3		
		4,841		**220**		

Appendix 12

Vivian Connard: For Estate of Stephen Matthew Connard (Leukemia)

Summed variable totals

		Chart 1: 1L	Chart 2: ATSDR	Chart 3 FM
	Cumulative ug/l-M	Cumulative consumption (total ug= days*concentration per L)	Cumulative consumption (total ug= days*concentration per ATSDR exposure assumptions)	Cumulative consumption (total ug= days*concentration per deposition/FM exposure assumptions)
TCE	12,526	362,500	1,574,286	2,401,821
PCE	564	16,356	71,032	108,370
VC	792	22,962	99,721	152,140
BZ	190	5,543	24,072	36,726

Exposure Start Date	Exposure End Date	Total Days	Exposure Location (Work and Residential)	TCE (ug/l-M)		PCE (ug/l-M)		VC (ug/l-M)		BZ (ug/l-M)	
9/26/1977	9/30/1977	4	Hadnot Point (Mainside Barracks)	338		13		18		4	
10/1/1977	10/31/1977	31	Hadnot Point (Mainside Barracks)	69		2		3		4	
11/1/1977	11/30/1977	30	Hadnot Point (Mainside Barracks)	544		22		30		4	
12/1/1977	12/31/1977	31	Hadnot Point (Mainside Barracks)	513		21		28		4	
1/1/1978	1/31/1978	31	Hadnot Point (Mainside Barracks)	250		10		14		4	
2/1/1978	2/28/1978	28	Hadnot Point (Mainside Barracks)	348		14		19		3	
3/1/1978	3/31/1978	31	Hadnot Point (Mainside Barracks)	352		15		20		3	
4/1/1978	4/30/1978	30	Hadnot Point (Mainside Barracks)	231		9		13		5	
5/1/1978	5/31/1978	31	Hadnot Point (Mainside Barracks)	278		12		16		4	
			(Okinawa, Japan)								
6/1/1979	6/30/1979	30	Hadnot Point (Mainside Barracks)	320		15		21		3	
7/1/1979	7/31/1979	31	Hadnot Point (Mainside Barracks)	361		17		23		3	
8/1/1979	8/31/1979	31	Hadnot Point (Mainside Barracks)	483		22		31		0	
9/1/1979	9/30/1979	30	Hadnot Point (Mainside Barracks)	358		17		23		3	
10/1/1979	10/31/1979	31	Hadnot Point (Mainside Barracks)	71		3		4		4	
11/1/1979	11/30/1979	30	Hadnot Point (Mainside Barracks)	507		23		33		6	
12/1/1979	12/31/1979	31	Hadnot Point (Mainside Barracks)	504		23		33		6	
1/1/1980	1/31/1980	31	Hadnot Point (Mainside Barracks)	264		12		17		7	
2/1/1980	2/28/1980	28	Hadnot Point (Mainside Barracks)	378		17		24		6	
3/1/1980	3/31/1980	31	Hadnot Point (Mainside Barracks)	433		20		28		6	
4/1/1980	4/30/1980	30	Hadnot Point (Mainside Barracks)	273		12		17		8	
5/1/1980	5/31/1980	31	Hadnot Point (Mainside Barracks)	322		15		21		6	
6/1/1980	6/30/1980	30	Hadnot Point (Mainside Barracks)	394		18		26		6	
7/1/1980	7/31/1980	31	Hadnot Point (Mainside Barracks)	415		20		27		6	
8/1/1980	8/31/1980	31	Hadnot Point (Mainside Barracks)	496		23		33		7	
9/1/1980	9/30/1980	30	Hadnot Point (Mainside Barracks)	388		18		26		7	
10/1/1980	10/31/1980	31	Hadnot Point (Mainside Barracks)	88		3		5		8	
11/1/1980	11/30/1980	30	Hadnot Point (Mainside Barracks)	524		25		35		7	
12/1/1980	12/31/1980	31	Hadnot Point (Mainside Barracks)	541		26		37		6	
1/1/1981	1/31/1981	31	Hadnot Point (Mainside Barracks)	295		14		19		8	
2/1/1981	2/28/1981	28	Hadnot Point (Mainside Barracks)	387		18		26		7	
3/1/1981	3/31/1981	31	Hadnot Point (Mainside Barracks)	397		19		27		6	
4/1/1981	4/30/1981	30	Hadnot Point (Mainside Barracks)	266		12		17		9	
5/1/1981	5/31/1981	31	Hadnot Point (Mainside Barracks)	322		15		22		7	
6/1/1981	6/30/1981	30	Hadnot Point (Mainside Barracks)	380		18		26		7	
7/1/1981	7/10/1981	10	Hadnot Point (Mainside Barracks)	436		21		30		6	
		1,017		12,526		564		792		190	

*drank lots of water "gallons"; also coffee drinker; no specific volume indications

*worked out in the field; doing all his exercises

3 days per week training heavy activity; FM average 1957-1983; moderate day: desert/tropical <80oF	4 days per week training light activity; FM average 1957-1983; moderate day: desert/tropical <80oF
8.52	5.21

ATSDR ingestion 6L/day 3 days per week	ATSDR ingestion 6L/day 3 days per week and 3L per day 4 days per week
6	3

1L concentration summaries
1

Chart 1: Days on base and cumulative contaminant exposure concentrations (1 L consumption per day)

Exposure Start Date	Exposure End Date	Total Days	Exposure Location (Work and Residential)	TCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	PCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	VC (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	BZ (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	1L concentration summaries; days per week
9/26/1977	9/30/1977	4	Hadnot Point (Mainside Barracks)	338	1352	13	52	18	72	4	16	1
10/1/1977	10/31/1977	31	Hadnot Point (Mainside Barracks)	69	2139	2	62	3	93	4	124	7
11/1/1977	11/30/1977	30	Hadnot Point (Mainside Barracks)	544	16320	22	660	30	900	4	120	
12/1/1977	12/31/1977	31	Hadnot Point (Mainside Barracks)	513	15903	21	651	28	868	4	124	
1/1/1978	1/31/1978	31	Hadnot Point (Mainside Barracks)	250	7750	10	310	14	434	4	124	
2/1/1978	2/28/1978	28	Hadnot Point (Mainside Barracks)	348	9744	14	392	19	532	3	84	
3/1/1978	3/31/1978	31	Hadnot Point (Mainside Barracks)	352	10912	15	465	20	620	3	93	
4/1/1978	4/30/1978	30	Hadnot Point (Mainside Barracks)	231	6930	9	270	13	390	5	150	
5/1/1978	5/31/1978	31	Hadnot Point (Mainside Barracks)	278	8618	12	372	16	496	4	124	
			(Okinawa, Japan)									
6/1/1979	6/30/1979	30	Hadnot Point (Mainside Barracks)	320	9600	15	450	21	630	3	90	
7/1/1979	7/31/1979	31	Hadnot Point (Mainside Barracks)	361	11191	17	527	23	713	3	93	
8/1/1979	8/31/1979	31	Hadnot Point (Mainside Barracks)	483	14973	22	682	31	961	0	0	
9/1/1979	9/30/1979	30	Hadnot Point (Mainside Barracks)	358	10740	17	510	23	690	3	90	
10/1/1979	10/31/1979	31	Hadnot Point (Mainside Barracks)	71	2201	3	93	4	124	4	124	
11/1/1979	11/30/1979	30	Hadnot Point (Mainside Barracks)	507	15210	23	690	33	990	6	180	
12/1/1979	12/31/1979	31	Hadnot Point (Mainside Barracks)	504	15624	23	713	33	1023	6	186	
1/1/1980	1/31/1980	31	Hadnot Point (Mainside Barracks)	264	8184	12	372	17	527	7	217	
2/1/1980	2/28/1980	28	Hadnot Point (Mainside Barracks)	378	10584	17	476	24	672	6	168	
3/1/1980	3/31/1980	31	Hadnot Point (Mainside Barracks)	433	13423	20	620	28	868	6	186	
4/1/1980	4/30/1980	30	Hadnot Point (Mainside Barracks)	273	8190	12	360	17	510	8	240	
5/1/1980	5/31/1980	31	Hadnot Point (Mainside Barracks)	322	9982	15	465	21	651	6	186	
6/1/1980	6/30/1980	30	Hadnot Point (Mainside Barracks)	394	11820	18	540	26	780	6	180	
7/1/1980	7/31/1980	31	Hadnot Point (Mainside Barracks)	415	12865	20	620	27	837	6	186	
8/1/1980	8/31/1980	31	Hadnot Point (Mainside Barracks)	496	15376	23	713	33	1023	7	217	
9/1/1980	9/30/1980	30	Hadnot Point (Mainside Barracks)	388	11640	18	540	26	780	7	210	
10/1/1980	10/31/1980	31	Hadnot Point (Mainside Barracks)	88	2728	3	93	5	155	8	248	
11/1/1980	11/30/1980	30	Hadnot Point (Mainside Barracks)	524	15720	25	750	35	1050	7	210	
12/1/1980	12/31/1980	31	Hadnot Point (Mainside Barracks)	541	16771	26	806	37	1147	6	186	
1/1/1981	1/31/1981	31	Hadnot Point (Mainside Barracks)	295	9145	14	434	19	589	8	248	
2/1/1981	2/28/1981	28	Hadnot Point (Mainside Barracks)	387	10836	18	504	26	728	7	196	
3/1/1981	3/31/1981	31	Hadnot Point (Mainside Barracks)	397	12307	19	589	27	837	6	186	
4/1/1981	4/30/1981	30	Hadnot Point (Mainside Barracks)	266	7980	12	360	17	510	9	270	
5/1/1981	5/31/1981	31	Hadnot Point (Mainside Barracks)	322	9982	15	465	22	682	7	217	
6/1/1981	6/30/1981	30	Hadnot Point (Mainside Barracks)	380	11400	18	540	26	780	7	210	
7/1/1981	7/10/1981	10	Hadnot Point (Mainside Barracks)	436	4360	21	210	30	300	6	60	
1,017				**12,526**	**362,500**		**16,356**		**22,962**		**5,543**	

Chart 2: Days on base and cumulative contaminant exposure concentrations (ATSDR ingestion 6L/day 3 days per week and 3L per day 4 days per week)

Exposure Start Date	Exposure End Date	Total Days	Exposure Location (Work and Residential)	TCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per ATSDR exposure assumptions)	PCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per ATSDR exposure assumptions)	VC (ug/l-M)	Cumulative consumption (total ug= days*concentration per ATSDR exposure assumptions)	BZ (ug/l-M)	Cumulative consumption (total ug= days*concentration per ATSDR exposure assumptions)	ATSDR ingestion 6L/day 3 days per week	ATSDR ingestion 6L/day 3 days per week and 3.1 L per day 4 days per week
9/26/1977	9/30/1977	4	Hadnot Point (Mainside Barracks)	338	5872	13	226	18	313	4	69	**6**	**3.1**
10/1/1977	10/31/1977	31	Hadnot Point (Mainside Barracks)	69	9289	2	269	3	404	4	539	**3**	**4**
11/1/1977	11/30/1977	30	Hadnot Point (Mainside Barracks)	544	70875	22	2866	30	3909	4	521		
12/1/1977	12/31/1977	31	Hadnot Point (Mainside Barracks)	513	69064	21	2827	28	3770	4	539		
1/1/1978	1/31/1978	31	Hadnot Point (Mainside Barracks)	250	33657	10	1346	14	1885	4	539		
2/1/1978	2/28/1978	28	Hadnot Point (Mainside Barracks)	348	42317	14	1702	19	2310	3	365		
3/1/1978	3/31/1978	31	Hadnot Point (Mainside Barracks)	352	47389	15	2019	20	2693	3	404		
4/1/1978	4/30/1978	30	Hadnot Point (Mainside Barracks)	231	30096	9	1173	13	1694	5	651		
5/1/1978	5/31/1978	31	Hadnot Point (Mainside Barracks)	278	37427	12	1616	16	2154	4	539		
			(Okinawa, Japan)										
6/1/1979	6/30/1979	30	Hadnot Point (Mainside Barracks)	320	41691	15	1954	21	2736	3	391		
7/1/1979	7/31/1979	31	Hadnot Point (Mainside Barracks)	361	48601	17	2289	23	3096	3	404		
8/1/1979	8/31/1979	31	Hadnot Point (Mainside Barracks)	483	65026	22	2962	31	4173	0	0		
9/1/1979	9/30/1979	30	Hadnot Point (Mainside Barracks)	358	46642	17	2215	23	2997	3	391		
10/1/1979	10/31/1979	31	Hadnot Point (Mainside Barracks)	71	9559	3	404	4	539	4	539		
11/1/1979	11/30/1979	30	Hadnot Point (Mainside Barracks)	507	66055	23	2997	33	4299	6	782		
12/1/1979	12/31/1979	31	Hadnot Point (Mainside Barracks)	504	67853	23	3096	33	4443	6	808		
1/1/1980	1/31/1980	31	Hadnot Point (Mainside Barracks)	264	35542	12	1616	17	2289	7	942		
2/1/1980	2/28/1980	28	Hadnot Point (Mainside Barracks)	378	45965	17	2067	24	2918	6	730		
3/1/1980	3/31/1980	31	Hadnot Point (Mainside Barracks)	433	58294	20	2693	28	3770	6	808		
4/1/1980	4/30/1980	30	Hadnot Point (Mainside Barracks)	273	35568	12	1563	17	2215	8	1042		
5/1/1980	5/31/1980	31	Hadnot Point (Mainside Barracks)	322	43350	15	2019	21	2827	6	808		
6/1/1980	6/30/1980	30	Hadnot Point (Mainside Barracks)	394	51333	18	2345	26	3387	6	782		
7/1/1980	7/31/1980	31	Hadnot Point (Mainside Barracks)	415	55871	20	2693	27	3635	6	808		
8/1/1980	8/31/1980	31	Hadnot Point (Mainside Barracks)	496	66776	23	3096	33	4443	7	942		
9/1/1980	9/30/1980	30	Hadnot Point (Mainside Barracks)	388	50551	18	2345	26	3387	7	912		
10/1/1980	10/31/1980	31	Hadnot Point (Mainside Barracks)	88	11847	3	404	5	673	8	1077		
11/1/1980	11/30/1980	30	Hadnot Point (Mainside Barracks)	524	68270	25	3257	35	4560	7	912		
12/1/1980	12/31/1980	31	Hadnot Point (Mainside Barracks)	541	72834	26	3500	37	4981	6	808		
1/1/1981	1/31/1981	31	Hadnot Point (Mainside Barracks)	295	39715	14	1885	19	2558	8	1077		
2/1/1981	2/28/1981	28	Hadnot Point (Mainside Barracks)	387	47059	18	2189	26	3162	7	851		
3/1/1981	3/31/1981	31	Hadnot Point (Mainside Barracks)	397	53448	19	2558	27	3635	6	808		
4/1/1981	4/30/1981	30	Hadnot Point (Mainside Barracks)	266	34656	12	1563	17	2215	9	1173		
5/1/1981	5/31/1981	31	Hadnot Point (Mainside Barracks)	322	43350	15	2019	22	2962	7	942		
6/1/1981	6/30/1981	30	Hadnot Point (Mainside Barracks)	380	49509	18	2345	26	3387	7	912		
7/1/1981	7/10/1981	10	Hadnot Point (Mainside Barracks)	436	18935	21	912	30	1303	6	261		
1,017				**12,526**	**1,574,286**		**71,032**		**99,721**		**24,072**		

Chart 3: Days on base and cumulative contaminant exposure concentrations- FM 1957-1983 moderate day averages

Exposure Start Date	Exposure End Date	Total Days	Exposure Location (Work and Residential)	TCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per FM exposure assumptions)	PCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per FM exposure assumptions)	VC (ug/l-M)	Cumulative consumption (total ug= days*concentration per FM exposure assumptions)	BZ (ug/l-M)	Cumulative consumption (total ug= days*concentration per FM exposure assumptions)	3 days per week training heavy activity; FM average 1957-1983; moderate day: desert/tropical <80oF	4 days per week training light activity; FM average 1957-1983; moderate day: desert/tropical <80oF
9/26/1977	9/30/1977	4	Hadnot Point (Mainside Barracks)	338	8958	13	345	18	477	4	106	**8.52**	**5.21**
10/1/1977	10/31/1977	31	Hadnot Point (Mainside Barracks)	69	14172	2	411	3	616	4	822	**3**	**4**
11/1/1977	11/30/1977	30	Hadnot Point (Mainside Barracks)	544	108132	22	4373	30	5963	4	795		
12/1/1977	12/31/1977	31	Hadnot Point (Mainside Barracks)	513	105369	21	4313	28	5751	4	822		
1/1/1978	1/31/1978	31	Hadnot Point (Mainside Barracks)	250	51349	10	2054	14	2876	4	822		
2/1/1978	2/28/1978	28	Hadnot Point (Mainside Barracks)	348	64561	14	2597	19	3525	3	557		
3/1/1978	3/31/1978	31	Hadnot Point (Mainside Barracks)	352	72300	15	3081	20	4108	3	616		
4/1/1978	4/30/1978	30	Hadnot Point (Mainside Barracks)	231	45916	9	1789	13	2584	5	994		
5/1/1978	5/31/1978	31	Hadnot Point (Mainside Barracks)	278	57100	12	2465	16	3286	4	822		
			(Okinawa, Japan)										
6/1/1979	6/30/1979	30	Hadnot Point (Mainside Barracks)	320	63607	15	2982	21	4174	3	596		
7/1/1979	7/31/1979	31	Hadnot Point (Mainside Barracks)	361	74148	17	3492	23	4724	3	616		
8/1/1979	8/31/1979	31	Hadnot Point (Mainside Barracks)	483	99207	22	4519	31	6367	0	0		
9/1/1979	9/30/1979	30	Hadnot Point (Mainside Barracks)	358	71160	17	3379	23	4572	3	596		
10/1/1979	10/31/1979	31	Hadnot Point (Mainside Barracks)	71	14583	3	616	4	822	4	822		
11/1/1979	11/30/1979	30	Hadnot Point (Mainside Barracks)	507	100777	23	4572	33	6559	6	1193		
12/1/1979	12/31/1979	31	Hadnot Point (Mainside Barracks)	504	103520	23	4724	33	6778	6	1232		
1/1/1980	1/31/1980	31	Hadnot Point (Mainside Barracks)	264	54225	12	2465	17	3492	7	1438		
2/1/1980	2/28/1980	28	Hadnot Point (Mainside Barracks)	378	70127	17	3154	24	4452	6	1113		
3/1/1980	3/31/1980	31	Hadnot Point (Mainside Barracks)	433	88937	20	4108	28	5751	6	1232		
4/1/1980	4/30/1980	30	Hadnot Point (Mainside Barracks)	273	54265	12	2385	17	3379	8	1590		
5/1/1980	5/31/1980	31	Hadnot Point (Mainside Barracks)	322	66138	15	3081	21	4313	6	1232		
6/1/1980	6/30/1980	30	Hadnot Point (Mainside Barracks)	394	78316	18	3578	26	5168	6	1193		
7/1/1980	7/31/1980	31	Hadnot Point (Mainside Barracks)	415	85240	20	4108	27	5546	6	1232		
8/1/1980	8/31/1980	31	Hadnot Point (Mainside Barracks)	496	101877	23	4724	33	6778	7	1438		
9/1/1980	9/30/1980	30	Hadnot Point (Mainside Barracks)	388	77123	18	3578	26	5168	7	1391		
10/1/1980	10/31/1980	31	Hadnot Point (Mainside Barracks)	88	18075	3	616	5	1027	8	1643		
11/1/1980	11/30/1980	30	Hadnot Point (Mainside Barracks)	524	104156	25	4969	35	6957	7	1391		
12/1/1980	12/31/1980	31	Hadnot Point (Mainside Barracks)	541	111120	26	5340	37	7600	6	1232		
1/1/1981	1/31/1981	31	Hadnot Point (Mainside Barracks)	295	60592	14	2876	19	3903	8	1643		
2/1/1981	2/28/1981	28	Hadnot Point (Mainside Barracks)	387	71796	18	3339	26	4824	7	1299		
3/1/1981	3/31/1981	31	Hadnot Point (Mainside Barracks)	397	81543	19	3903	27	5546	6	1232		
4/1/1981	4/30/1981	30	Hadnot Point (Mainside Barracks)	266	52873	12	2385	17	3379	9	1789		
5/1/1981	5/31/1981	31	Hadnot Point (Mainside Barracks)	322	66138	15	3081	22	4519	7	1438		
6/1/1981	6/30/1981	30	Hadnot Point (Mainside Barracks)	380	75533	18	3578	26	5168	7	1391		
7/1/1981	7/10/1981	10	Hadnot Point (Mainside Barracks)	436	28888	21	1391	30	1988	6	398		
1,017				**12,526**	**2,401,821**		**108,370**		**152,140**		**36,726**		

Appendix 13

Robert J. Fiolek (Leukemia)

Summed variable totals

		Chart 1: 1L	Chart 2: ATSDR	Chart 3: FM
	Cumulative ug/l-M	Cumulative consumption (total ug= days*concentration per L)	Cumulative consumption (total ug= days*concentration per ATSDR exposure assumptions)	Cumulative consumption (total ug= days*concentration per deposition/FM exposure assumptions)
Hadnot Point				
TCE	852	3,104	14,822	22,256
PCE	-	-	-	-
VC	-	-	-	-
BZ	34	131	625	939
Terawa Terrace				
TCE	71	290	1,078	2,336
PCE (TechFlowMP Model)	1,747	7,183	26,731	57,930
PCE (MT3DMS Model)	2,083	8,472	31,528	68,325
VC	108	417	1,550	3,360
BZ	-	-	-	-
Totals HP & TT				
TCE	923	3,394	15,900	24,592
PCE (TechFlowMP Model)	1,747	7,183	26,731	57,930
PCE (MT3DMS Model)	2,083	8,472	31,528	68,325
VC	108	417	1,550	3,360
BZ	34	131	625	939

Exposure Dates	Total Days HP work	Total days HP residential	Total Days TT residential	TCE (ug/l-M) HP	TCE (ug/l-M) TT	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	PCE (ug/l-M) HP	PCE (ug/l-M)(TechFlowMP Model) TT	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	PCE (ug/l-M) HP	PCE (ug/l-M)(MT3DMS Model) TT	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	VC (ug/l-M) HP	VC (ug/l-M) TT	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	BZ (ug/l-M) HP	BZ (ug/l-M) TT	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	
9/4/1964-9/9/1964	27	27	0	22	2.26				0	54.06				0	64.43				0	3.84				1	0				
10/1/1964-10/9/1964	9	9	0	24	2.25				0	53.99				0	64.47				0	3.79				1	0				
11/28/1964-11/30/1964	3	3	0	25	2.24				0	53.92				0	64.49				0	3.75				1	0				
12/1/1964-12/9/1964	19	19	0	23	2.24				0	53.85				0	64.5				0	3.72				1	0				
1/1/1965-1/31/1965	21	0	0	22	2.23				0	53.78				0	64.5				0	3.68				1	0				
2/1/1965-2/28/1965	28	0	0	23	2.23				0	53.72				0	64.49				0	3.65				1	0				
3/1/1965-3/31/1965; 3/31/1965	16	0	0	19	2.22				0	53.64				0	64.47				0	3.61				0	0				
4/1/1965-4/30/1965	30	0	0	26	2.22				0	53.59				0	64.45				0	3.58				1	0				
5/1/1965-5/31/1965	31	0	0	21	2.21				0	53.52				0	64.42				0	3.55				1	0				
6/1/1965-6/30/1965	30	0	0	21	2.21				0	53.47				0	64.38				0	3.52				1	0				
7/1/1965-7/31/1965;7/25/1965-7/31/1965	20	0	0	21	2.2				0	53.4				0	64.33				0	3.5				1	0				
8/1/1965-8/2/1965	2	0	0	25	2.2				0	53.34				0	64.27				0	3.47				1	0				
9/15/1966-9/30/1966	0	0	0	23	2.13				0	52.38				0	62.94				0	3.2				1	0				
10/1/1966-10/31/1966	0	0	0	25	2.13				0	52.28				0	62.8				0	3.18				1	0				
11/1/1966-11/30/1966	0	0	0	26	2.12				0	52.2				0	62.65				0	3.16				1	0				
12/1/1966-12/31/1966	0	0	0	26	2.12				0	52.11				0	62.5				0	3.14				1	0				
1/1/1967-1/31/1967	0	0	0	25	2.11				0	52.02				0	62.25				0	3.13				1	0				
2/1/1967-2/16/1967; 2/18/1967-2/28/1967	0	0	0	26	2.11				0	51.9				0	61.99				0	3.11				1	0				
3/1/1967-3/31/1967	0	0	0	23	2.1				0	51.76				0	61.67				0	3.09				1	0				
4/1/1967-4/30/1967	0	0	0	30	2.09				0	51.61				0	61.35				0	3.07				1	0				
5/1/1967-5/31/1967	0	0	0	24	2.08				0	51.43				0	61.02				0	3.05				1	0				
6/1/1967	0	0	0	24	2.07				0	51.23				0	60.69				0	3.03				1	0				
6/2/1967-6/30/1967; 6/30/1967	0	0	19	24	2.07				0	51.23				0	60.69				0	3.03				1	0				
7/1/1967-7/31/1967	0	0	31	25	2.06				0	51.02				0	60.37				0	3				1	0				
8/1/1967-8/31/1967	0	0	31	31	2.05				0	50.79				0	60.05				0	2.98				1	0				
9/1/1967-9/15/1967; 9/30/1967	0	0	17	26	2.04				0	50.57				0	59.74				0	2.95				1	0				
10/1/1967-10/31/1967	0	0	31	29	2.03				0	50.34				0	59.43				0	2.92				1	0				
11/1/1967-11/30/1967	0	0	30	29	2.02				0	50.11				0	59.13				0	2.9				1	0				
12/1/1967-12/31/1967	0	0	31	28	2.01				0	49.89				0	58.83				0	2.87				1	0				
1/1/1968-1/31/1968	0	0	31	27	2				0	49.66				0	58.41				0	2.85				1	0				
2/1/1968-2/29/1968	0	0	29	26	1.99				0	49.4				0	57.95				0	2.82				1	0				
3/1/1968-3/11/1968	0	0	11	23	1.97				0	49.1				0	57.43				0	2.79				1	0				
4/19/1969-4/30/1969	0	0	0	32	1.77				0	44.47				0	52.93				0	2.35				2	0				
5/1/1969-5/4/1969	0	0	0	26	1.76				0	44.32				0	52.93				0	2.34				1	0				
6/11/1969-6/11/1969	0	0	0	26	1.76				0	44.2				0	52.92				0	2.32				1	0				
	236	58	261	852	71				-	1,747				-	2,083				-	108				34	-				
				19	2	-	-	-	-	44	-	-	-	-	53	-	-	-	-	2	-	-	-	-	-	-	-	-	
				32	2	0	0	0	0	54	0	0	0	0	65	0	0	0	0	4	0	0	0	2	0	0	0	0	

Chart 1: Dayson base and cumulative contaminant exposure concentrations (1 L consumption per day)

Exposure Dates	Total Days HP work	Total days HP residential	Total Days TT residential	TCE (ug/l-M) HP	TCE (ug/l-M) TT	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	PCE (ug/l-M) HP	PCE (ug/l-M)(TechFlowMP Model) TT	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	PCE (ug/l-M) HP	PCE (ug/l-M)(MT3DMS Model) TT	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	VC (ug/l-M) HP	VC (ug/l-M) TT	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	BZ (ug/l-M) HP	BZ (ug/l-M) TT	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	Daily ingestion (L)
																														1
9/4/1964-9/9/1964	27	27	0	22	2.26	594	0	594	0	54.06	0	0	0	0	64.43	0	0	0	0	3.84	0	0	0	1	0	27	0	27	
10/1/1964-10/9/1964	9	9	0	24	2.25	216	0	216	0	53.99	0	0	0	0	64.47	0	0	0	0	3.79	0	0	0	1	0	9	0	9	
11/28/1964-11/30/1964	3	3	0	25	2.24	75	0	75	0	53.92	0	0	0	0	64.49	0	0	0	0	3.75	0	0	0	1	0	3	0	3	**Assumptions**
12/1/1964-12/9/1964	19	19	0	23	2.24	437	0	437	0	53.85	0	0	0	0	64.5	0	0	0	0	3.72	0	0	0	1	0	19	0	19	HP heavy training ingestion proportion days 0.667 A-47
1/11/1965-1/31/1965	21	0	0	22	2.23	209	0	209	0	53.78	0	0	0	0	64.5	0	0	0	0	3.68	0	0	0	1	0	9	0	9	residential proportion day on training days 0.333 A-48
2/1/1965-2/28/1965	28	0	0	23	2.23	291	0	291	0	53.72	0	0	0	0	64.49	0	0	0	0	3.65	0	0	0	1	0	13	0	13	
3/1/1965-3/31/1965; 3/31/1965	16	0	0	19	2.22	137	0	137	0	53.64	0	0	0	0	64.47	0	0	0	0	3.61	0	0	0	0	0	0	0	0	HP light/Nontraining ingestion proportion days 0.333 A-50
4/1/1965-4/30/1965	30	0	0	26	2.22	353	0	353	0	53.59	0	0	0	0	64.45	0	0	0	0	3.58	0	0	0	1	0	14	0	14	residential proportion day on nontraining days 0.667 A-51
5/1/1965-5/31/1965	31	0	0	21	2.21	294	0	294	0	53.52	0	0	0	0	64.42	0	0	0	0	3.55	0	0	0	1	0	14	0	14	
6/1/1965-6/30/1965	30	0	0	21	2.21	285	0	285	0	53.47	0	0	0	0	64.38	0	0	0	0	3.52	0	0	0	1	0	14	0	14	
7/1/1965-7/31/1965;7/25/1965-7/31/1965	20	0	0	21	2.2	190	0	190	0	53.4	0	0	0	0	64.33	0	0	0	0	3.5	0	0	0	1	0	9	0	9	
8/1/1965-8/2/1965	2	0	0	25	2.2	23	0	23	0	53.34	0	0	0	0	64.27	0	0	0	0	3.47	0	0	0	1	0	1	0	1	
9/15/1966-9/30/1966	0	0	0	23	2.13	0	0	0	0	52.38	0	0	0	0	62.94	0	0	0	0	3.2	0	0	0	1	0	0	0	0	
10/1/1966-10/31/1966	0	0	0	25	2.13	0	0	0	0	52.28	0	0	0	0	62.8	0	0	0	0	3.18	0	0	0	1	0	0	0	0	
11/1/1966-11/30/1966	0	0	0	26	2.12	0	0	0	0	52.2	0	0	0	0	62.65	0	0	0	0	3.16	0	0	0	1	0	0	0	0	
12/1/1966-12/31/1966	0	0	0	26	2.12	0	0	0	0	52.11	0	0	0	0	62.5	0	0	0	0	3.14	0	0	0	1	0	0	0	0	
1/1/1967-1/31/1967	0	0	0	25	2.11	0	0	0	0	52.02	0	0	0	0	62.25	0	0	0	0	3.13	0	0	0	1	0	0	0	0	
2/1/1967-2/16/1967; 2/18/1967-2/28/1967	0	0	0	26	2.11	0	0	0	0	51.9	0	0	0	0	61.99	0	0	0	0	3.11	0	0	0	1	0	0	0	0	

Activity Days per week	
	2.50
	2.50
	4.50
	4.50

3/1/1967-3/31/1967	0	0	0	23	2.1	0	0	0	0	51.76	0	0	0	0	61.67	0	0	0	0	3.09	0	0	0	1	0	0	0	0
4/1/1967-4/30/1967	0	0	0	30	2.09	0	0	0	0	51.61	0	0	0	0	61.35	0	0	0	0	3.07	0	0	0	1	0	0	0	0
5/1/1967-5/31/1967	0	0	0	24	2.08	0	0	0	0	51.43	0	0	0	0	61.02	0	0	0	0	3.05	0	0	0	1	0	0	0	0
6/1/1967	0	0	0	24	2.07	0	0	0	0	51.23	0	0	0	0	60.69	0	0	0	0	3.03	0	0	0	1	0	0	0	0
6/2/1967-6/29/1967; 6/30/1967	0	0	19	24	2.07	22	22	0	0	51.23	533	533	0	0	60.69	632	632	0	0	3.03	32	32	0	1	0	0	0	0
7/1/1967-7/31/1967	0	0	31	25	2.06	35	35	0	0	51.02	866	866	0	0	60.37	1025	1025	0	0	3	51	51	0	1	0	0	0	0
8/1/1967-8/31/1967	0	0	31	31	2.05	35	35	0	0	50.79	863	863	0	0	60.05	1020	1020	0	0	2.98	51	51	0	1	0	0	0	0
9/1/1967; 9/15/1967-9/30/1967	0	0	17	26	2.04	19	19	0	0	50.57	471	471	0	0	59.74	556	556	0	0	2.95	27	27	0	1	0	0	0	0
10/1/1967-10/31/1967	0	0	31	29	2.03	34	34	0	0	50.34	855	855	0	0	59.43	1009	1009	0	0	2.92	50	50	0	1	0	0	0	0
11/1/1967-11/30/1967	0	0	30	29	2.02	33	33	0	0	50.11	824	824	0	0	59.13	972	972	0	0	2.9	48	48	0	1	0	0	0	0
12/1/1967-12/31/1967	0	0	31	28	2.01	34	34	0	0	49.89	847	847	0	0	58.83	999	999	0	0	2.87	49	49	0	1	0	0	0	0
1/1/1968-1/31/1968	0	0	31	27	2	34	34	0	0	49.66	843	843	0	0	58.41	992	992	0	0	2.85	48	48	0	1	0	0	0	0
2/1/1968-2/29/1968	0	0	29	26	1.99	32	32	0	0	49.4	785	785	0	0	57.95	921	921	0	0	2.82	45	45	0	1	0	0	0	0
3/1/1968-3/31/1968	0	0	11	23	1.97	12	12	0	0	49.1	296	296	0	0	57.43	346	346	0	0	2.79	17	17	0	1	0	0	0	0
4/19/1969-4/30/1969	0	0	0	32	1.77	0	0	0	0	44.47	0	0	0	0	52.93	0	0	0	0	2.35	0	0	0	2	0	0	0	0
5/1/1969-5/9/1969	0	0	0	26	1.76	0	0	0	0	44.32	0	0	0	0	52.93	0	0	0	0	2.34	0	0	0	1	0	0	0	0
6/11/1969-6/30/1969	0	0	0	26	1.76	0	0	0	0	44.2	0	0	0	0	52.92	0	0	0	0	2.32	0	0	0	1	0	0	0	0
	236	**58**	**261**			**3,394**	**290**	**3,104**			**7,183**	**7,183**	**-**			**8,472**	**8,472**	**-**			**417**	**417**	**-**			**131**	**-**	**131**

Chart 2: Days on base and cumulative contaminant exposure concentrations (ATSDR ingestion 6L/day 3 days per week and 3.1L per day 4 days per week)

Exposure Dates	Total Days HP work	Total days HP residential	Total Days TT residential	TCE (ug/l-M) HP	TCE (ug/l-M) TT	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	PCE (ug/l-M) HP	PCE (ug/l-M)(TechFlowMP Model) TT	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	PCE (ug/l-M) HP	PCE (ug/l-M)(MT3DMS Model) TT	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	VC (ug/l-M) HP	VC (ug/l-M) TT	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	BZ (ug/l-M) HP	BZ (ug/l-M) TT	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)
9/4/1964-9/30/1964	27	27	0	22	2.26	2580	0	2580	0	54.06	0	0	0	0	64.43	0	0	0	0	3.84	0	0	0	1	0	117	0	117
10/1/1964-10/31/1964	9	9	0	24	2.25	938	0	938	0	53.99	0	0	0	0	64.47	0	0	0	0	3.79	0	0	0	1	0	39	0	39
11/28/1964-11/30/1964	3	3	0	25	2.24	326	0	326	0	53.92	0	0	0	0	64.49	0	0	0	0	3.75	0	0	0	1	0	13	0	13
12/1/1964-12/19/1964	19	19	0	23	2.24	1898	0	1898	0	53.85	0	0	0	0	64.5	0	0	0	0	3.72	0	0	0	1	0	83	0	83
1/11/1965-1/31/1965	21	0	0	22	2.23	1065	0	1065	0	53.78	0	0	0	0	64.5	0	0	0	0	3.68	0	0	0	1	0	48	0	48
2/1/1965-2/28/1965	28	0	0	23	2.23	1484	0	1484	0	53.72	0	0	0	0	64.49	0	0	0	0	3.65	0	0	0	1	0	65	0	65
3/1/1965-3/31/1965	16	0	0	19	2.22	700	0	700	0	53.64	0	0	0	0	64.47	0	0	0	0	3.61	0	0	0	0	0	0	0	0
4/1/1965-4/30/1965	30	0	0	26	2.22	1797	0	1797	0	53.59	0	0	0	0	64.45	0	0	0	0	3.58	0	0	0	1	0	69	0	69
5/1/1965-5/31/1965	31	0	0	21	2.21	1500	0	1500	0	53.52	0	0	0	0	64.42	0	0	0	0	3.55	0	0	0	1	0	71	0	71
6/1/1965-6/30/1965	30	0	0	21	2.21	1452	0	1452	0	53.47	0	0	0	0	64.38	0	0	0	0	3.52	0	0	0	1	0	69	0	69
7/1/1965-7/13/1965;7/25/1965-7/31/1965	20	0	0	21	2.2	968	0	968	0	53.4	0	0	0	0	64.33	0	0	0	0	3.5	0	0	0	1	0	46	0	46
8/1/1965-8/2/1965	2	0	0	25	2.2	115	0	115	0	53.34	0	0	0	0	64.27	0	0	0	0	3.47	0	0	0	1	0	5	0	5
9/15/1966-9/30/1966	0	0	0	23	2.13	0	0	0	0	52.38	0	0	0	0	62.94	0	0	0	0	3.2	0	0	0	1	0	0	0	0
10/1/1966-10/31/1966	0	0	0	25	2.13	0	0	0	0	52.28	0	0	0	0	62.8	0	0	0	0	3.18	0	0	0	1	0	0	0	0
11/1/1966-11/30/1966	0	0	0	26	2.12	0	0	0	0	52.2	0	0	0	0	62.65	0	0	0	0	3.16	0	0	0	1	0	0	0	0
12/1/1966-12/31/1966	0	0	0	26	2.12	0	0	0	0	52.11	0	0	0	0	62.5	0	0	0	0	3.14	0	0	0	1	0	0	0	0
1/1/1967-1/31/1967	0	0	0	25	2.11	0	0	0	0	52.02	0	0	0	0	62.25	0	0	0	0	3.13	0	0	0	1	0	0	0	0
2/1/1967-2/18/1967; 2/18/1967-2/28/1967	0	0	0	26	2.11	0	0	0	0	51.9	0	0	0	0	61.99	0	0	0	0	3.11	0	0	0	1	0	0	0	0
3/1/1967-3/31/1967	0	0	0	23	2.1	0	0	0	0	51.76	0	0	0	0	61.67	0	0	0	0	3.09	0	0	0	1	0	0	0	0
4/1/1967-4/30/1967	0	0	0	30	2.09	0	0	0	0	51.61	0	0	0	0	61.35	0	0	0	0	3.07	0	0	0	1	0	0	0	0
5/1/1967-5/31/1967	0	0	0	24	2.08	0	0	0	0	51.43	0	0	0	0	61.02	0	0	0	0	3.05	0	0	0	1	0	0	0	0
6/1/1967	0	0	0	24	2.07	0	0	0	0	51.23	0	0	0	0	60.69	0	0	0	0	3.03	0	0	0	1	0	0	0	0
6/2/1967-6/29/1967; 6/30/1967	0	0	19	24	2.07	80	80	0	0	51.23	1984	1984	0	0	60.69	2351	2351	0	0	3.03	117	117	0	1	0	0	0	0
7/1/1967-7/31/1967	0	0	31	25	2.06	130	130	0	0	51.02	3224	3224	0	0	60.37	3815	3815	0	0	3	190	190	0	1	0	0	0	0
8/1/1967-8/31/1967	0	0	31	31	2.05	130	130	0	0	50.79	3210	3210	0	0	60.05	3795	3795	0	0	2.98	188	188	0	1	0	0	0	0
9/1/1967; 9/15/1967-9/30/1967	0	0	17	26	2.04	71	71	0	0	50.57	1753	1753	0	0	59.74	2070	2070	0	0	2.95	102	102	0	1	0	0	0	0
10/1/1967-10/31/1967	0	0	31	29	2.03	128	128	0	0	50.34	3181	3181	0	0	59.43	3756	3756	0	0	2.92	185	185	0	1	0	0	0	0
11/1/1967-11/30/1967	0	0	30	29	2.02	124	124	0	0	50.11	3065	3065	0	0	59.13	3616	3616	0	0	2.9	177	177	0	1	0	0	0	0
12/1/1967-12/31/1967	0	0	31	28	2.01	127	127	0	0	49.89	3153	3153	0	0	58.83	3718	3718	0	0	2.87	181	181	0	1	0	0	0	0
1/1/1968-1/31/1968	0	0	31	27	2	126	126	0	0	49.66	3138	3138	0	0	58.41	3691	3691	0	0	2.85	180	180	0	1	0	0	0	0
2/1/1968-2/29/1968	0	0	29	26	1.99	118	118	0	0	49.4	2921	2921	0	0	57.95	3426	3426	0	0	2.82	167	167	0	1	0	0	0	0
3/1/1968-3/31/1968	0	0	11	23	1.97	44	44	0	0	49.1	1101	1101	0	0	57.43	1288	1288	0	0	2.79	63	63	0	1	0	0	0	0
4/19/1969-4/30/1969	0	0	0	32	1.77	0	0	0	0	44.47	0	0	0	0	52.93	0	0	0	0	2.35	0	0	0	2	0	0	0	0
5/1/1969-5/9/1969	0	0	0	26	1.76	0	0	0	0	44.32	0	0	0	0	52.93	0	0	0	0	2.34	0	0	0	1	0	0	0	0
6/11/1969-6/30/1969	0	0	0	26	1.76	0	0	0	0	44.2	0	0	0	0	52.92	0	0	0	0	2.32	0	0	0	1	0	0	0	0
	236	**58**	**261**			**15,900**	**1,078**	**14,822**			**26,731**	**26,731**	**-**			**31,528**	**31,528**	**-**			**1,550**	**1,550**	**-**			**625**	**-**	**625**

ATSDR ingestion 6L/day 3 days per week	ingestion 6L/day 3 days per week and 3.1L per day 4 days per week
6	**3.1**
3	**4**

Assumptions

HP heavy training ingestion proportion days	0.667
residential proportion day on training days	0.333
HP light/Nontraining ingestion proportion days	0.333
residential proportion day on nontraining days	0.667

Chart 3: Days on base and cumulative contaminant exposure concentrations; FM 1957-1983 moderate day averages

Exposure Dates	Total Days HP work	Total days HP residential	Total Days TT residential	TCE (ug/l-M) HP	TCE (ug/l-M) TT	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	PCE (ug/l-M) HP	PCE (ug/l-M)(TechFlowMP Model) TT	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	PCE (ug/l-M) HP	PCE (ug/l-M)(MT3DMS Model) TT	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	VC (ug/l-M) HP	VC (ug/l-M) TT	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	BZ (ug/l-M) HP	BZ (ug/l-M) TT	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	3 days per week training heavy activity; FM average 1957-1983; moderate day: desert/tropical <80oF	4 days per week training light activity ; FM average 1957-1983; moderate day: desert/tropical <80oF
																														8.52	5.21
9/4/1964-9/30/1964	27	27	0	22	2.26	3936	0	3936	0	54.06	0	0	0	0	64.43	0	0	0	0	3.84	0	0	0	1	0	179	0	179	3	4
10/1/1964-10/31/1964	9	9	0	24	2.25	1431	0	1431	0	53.99	0	0	0	0	64.47	0	0	0	0	3.79	0	0	0	1	0	60	0	60		
11/28/1964-11/30/1964	3	3	0	25	2.24	497	0	497	0	53.92	0	0	0	0	64.49	0	0	0	0	3.75	0	0	0	1	0	20	0	20		
12/1/1964-12/19/1964	19	19	0	23	2.24	2895	0	2895	0	53.85	0	0	0	0	64.5	0	0	0	0	3.72	0	0	0	1	0	126	0	126		
1/11/1965-1/31/1965	21	0	0	22	2.23	1582	0	1582	0	53.78	0	0	0	0	64.5	0	0	0	0	3.68	0	0	0	1	0	72	0	72		
2/1/1965-2/28/1965	28	0	0	23	2.23	2206	0	2206	0	53.72	0	0	0	0	64.49	0	0	0	0	3.65	0	0	0	1	0	96	0	96		
3/1/1965-3/15/1965; 3/31/1965	16	0	0	19	2.22	1041	0	1041	0	53.64	0	0	0	0	64.47	0	0	0	0	3.61	0	0	0	0	0	0	0	0		
4/1/1965-4/30/1965	30	0	0	26	2.22	2671	0	2671	0	53.59	0	0	0	0	64.45	0	0	0	0	3.58	0	0	0	1	0	103	0	103		
5/1/1965-5/31/1965	31	0	0	21	2.21	2229	0	2229	0	53.52	0	0	0	0	64.42	0	0	0	0	3.55	0	0	0	1	0	106	0	106		
6/1/1965-6/30/1965	30	0	0	21	2.21	2158	0	2158	0	53.47	0	0	0	0	64.38	0	0	0	0	3.52	0	0	0	1	0	103	0	103		
7/1/1965-7/15/1965;7/25/1965-7/31/1965	20	0	0	21	2.2	1438	0	1438	0	53.4	0	0	0	0	64.33	0	0	0	0	3.5	0	0	0	1	0	68	0	68		
8/1/1965-8/25/1965	2	0	0	25	2.2	171	0	171	0	53.34	0	0	0	0	64.27	0	0	0	0	3.47	0	0	0	1	0	7	0	7		
9/15/1966-9/30/1966	0	0	0	23	2.13	0	0	0	0	52.38	0	0	0	0	62.94	0	0	0	0	3.2	0	0	0	1	0	0	0	0		
10/1/1966-10/31/1966	0	0	0	25	2.13	0	0	0	0	52.28	0	0	0	0	62.8	0	0	0	0	3.18	0	0	0	1	0	0	0	0		
11/1/1966-11/30/1966	0	0	0	26	2.12	0	0	0	0	52.2	0	0	0	0	62.65	0	0	0	0	3.16	0	0	0	1	0	0	0	0		
12/1/1966-12/31/1966	0	0	0	26	2.12	0	0	0	0	52.11	0	0	0	0	62.5	0	0	0	0	3.14	0	0	0	1	0	0	0	0		
1/1/1967-1/31/1967	0	0	0	25	2.11	0	0	0	0	52.02	0	0	0	0	62.25	0	0	0	0	3.13	0	0	0	1	0	0	0	0		
2/1/1967-2/16/1967; 2/18/1967-2/28/1967	0	0	0	26	2.11	0	0	0	0	51.9	0	0	0	0	61.99	0	0	0	0	3.11	0	0	0	1	0	0	0	0		
3/1/1967-3/31/1967	0	0	0	23	2.1	0	0	0	0	51.76	0	0	0	0	61.67	0	0	0	0	3.09	0	0	0	1	0	0	0	0		
4/1/1967-4/30/1967	0	0	0	30	2.09	0	0	0	0	51.61	0	0	0	0	61.35	0	0	0	0	3.07	0	0	0	1	0	0	0	0		
5/1/1967-5/31/1967	0	0	0	24	2.08	0	0	0	0	51.43	0	0	0	0	61.02	0	0	0	0	3.05	0	0	0	1	0	0	0	0		
6/1/1967	0	0	0	24	2.07	0	0	0	0	51.23	0	0	0	0	60.69	0	0	0	0	3.03	0	0	0	1	0	0	0	0		
6/2/1967-6/29/1967; 6/30/1967	0	0	19	24	2.07	174	174	0	0	51.23	4300	4300	0	0	60.69	5095	5095	0	0	3.03	254	254	0	1	0	0	0	0		
7/1/1967-7/31/1967	0	0	31	25	2.06	282	282	0	0	51.02	6988	6988	0	0	60.37	8268	8268	0	0	3	411	411	0	1	0	0	0	0		
8/1/1967-8/31/1967	0	0	31	31	2.05	281	281	0	0	50.79	6956	6956	0	0	60.05	8225	8225	0	0	2.98	408	408	0	1	0	0	0	0		
9/1/1967-9/15/1967-9/30/1967	0	0	17	26	2.04	153	153	0	0	50.57	3798	3798	0	0	59.74	4487	4487	0	0	2.95	222	222	0	1	0	0	0	0		
10/1/1967-10/31/1967	0	0	31	29	2.03	278	278	0	0	50.34	6895	6895	0	0	59.43	8140	8140	0	0	2.92	400	400	0	1	0	0	0	0		
11/1/1967-11/30/1967	0	0	30	29	2.02	268	268	0	0	50.11	6642	6642	0	0	59.13	7837	7837	0	0	2.9	384	384	0	1	0	0	0	0		
12/1/1967-12/31/1967	0	0	31	28	2.01	275	275	0	0	49.89	6833	6833	0	0	58.83	8057	8057	0	0	2.87	393	393	0	1	0	0	0	0		
1/1/1968-1/31/1968	0	0	31	27	2	274	274	0	0	49.66	6802	6802	0	0	58.41	8000	8000	0	0	2.85	390	390	0	1	0	0	0	0		
2/1/1968-2/29/1968	0	0	29	26	1.99	255	255	0	0	49.4	6329	6329	0	0	57.95	7425	7425	0	0	2.82	361	361	0	1	0	0	0	0		
3/1/1968-3/31/1968	0	0	11	23	1.97	96	96	0	0	49.1	2386	2386	0	0	57.43	2791	2791	0	0	2.79	136	136	0	1	0	0	0	0		
4/19/1969-4/30/1969	0	0	0	32	1.77	0	0	0	0	44.47	0	0	0	0	52.93	0	0	0	0	2.35	0	0	0	2	0	0	0	0		
5/1/1969-5/9/1969	0	0	0	26	1.76	0	0	0	0	44.32	0	0	0	0	52.93	0	0	0	0	2.34	0	0	0	1	0	0	0	0		
6/11/1969-6/12/1969	0	0	0	26	1.76	0	0	0	0	44.2	0	0	0	0	52.92	0	0	0	0	2.32	0	0	0	1	0	0	0	0		
	236	**58**	**261**			**24,592**	**2,336**	**22,256**			**57,930**	**57,930**	**-**			**68,325**	**68,325**	**-**			**3,360**	**3,360**	**-**			**939**	**-**	**939**		

Appendix 14

Joseph Mark Gleesing (Leukemia)

Summed variable totals

			Chart 1: 1L	Chart 2: ATSDR	Chart 3: Deposition/FM
	Cumulative ug/l-M (HP)	Cumulative ug/l-M (MP)	Cumulative consumption (total ug= days*concentration per L)	Cumulative consumption (total ug= days*concentration per ATSDR exposure assumptions)	Cumulative consumption (total ug= days*concentration per deposition/FM exposure assumptions)
TCE	**11,754**	**31**	172,591	1,021,121	1,199,627
PCE	**546**	**-**	7,997	47,376	55,614
VC	**771**	**1**	11,303	66,916	78,584
BZ	**186**	**-**	2,717	16,097	18,897

Exposure Period	Finished Water Concentration [µg/L] Exposure Period Start	Exposure Period End	Week Days	Weekend	Total Days	Hadnot Point PCE	Hadnot Point TCE	Hadnot Point VC	Hadnot Point BZ	Midway Park PCE	Midway Park TCE	Midway Park VC	Midway Park BZ
1	1/25/1979	1/31/1979	5	2	7	12	268	16	6	0	0	0	0
	2/1/1979	2/28/1979	20	8	28	17	370	23	5	0	0	0	0
	3/1/1979	3/31/1979	22	9	31	17	378	24	5	0	0	0	0
	4/1/1979	4/24/1979	17	7	24	11	230	15	4	0	1	0	0
2	5/7/1979	5/31/1979	19	6	25	13	274	18	3	0	1	0	0
	6/1/1979	6/30/1979	21	9	30	15	320	21	3	0	2	0	0
	7/1/1979	7/31/1979	22	9	31	17	361	23	3	0	1	0	0
	8/1/1979	8/31/1979	23	8	31	22	483	31	0	0	2	0	0
	9/1/1979	9/30/1979	20	10	30	17	358	23	3	0	0	0	0
	10/1/1979	10/14/1979	10	4	14	3	71	4	4	0	0	0	0
3	11/6/1979	11/30/1979	19	6	25	23	507	33	6	0	0	0	0
	12/1/1979	12/31/1979	21	10	31	23	504	33	6	0	0	0	0
	1/1/1980	1/31/1980	23	8	31	12	264	17	7	0	0	0	0
	2/1/1980	2/29/1980	21	8	29	17	378	24	6	0	0	0	0
	3/1/1980	3/31/1980	21	10	31	20	433	28	6	0	0	0	0
	4/1/1980	4/30/1980	22	8	30	12	273	17	8	0	0	0	0
	5/1/1980	5/31/1980	22	9	31	15	322	21	6	0	0	0	0
	6/1/1980	6/30/1980	21	9	30	18	394	26	6	0	8	1	0
	7/1/1980	7/23/1980	17	6	23	20	415	27	6	0	0	0	0
4	8/19/1980	8/31/1980	9	4	13	23	496	33	7	0	0	0	0
	9/1/1980	9/30/1980	22	8	30	18	388	26	7	0	0	0	0
	10/1/1980	10/31/1980	23	8	31	3	88	5	8	0	0	0	0
	11/1/1980	11/30/1980	20	10	30	25	524	35	7	0	0	0	0
	12/1/1980	12/31/1980	23	8	31	26	541	37	6	0	0	0	0
	1/1/1981	1/31/1981	22	9	31	14	295	19	8	0	0	0	0
	2/1/1981	2/28/1981	20	8	28	18	387	26	7	0	0	0	0
	3/1/1981	3/31/1981	22	9	31	19	397	27	6	0	0	0	0
	4/1/1981	4/30/1981	22	8	30	12	266	17	9	0	4	0	0
	5/1/1981	5/31/1981	21	10	31	15	322	22	7	0	4	0	0
	6/1/1981	6/30/1981	22	8	30	18	380	26	7	0	4	0	0
	7/1/1981	7/31/1981	23	8	31	21	436	30	6	0	2	0	0
	8/1/1981	8/9/1981	5	4	9	30	631	44	8	0	2	0	0
			620	**248**	**868**	**546**	**11754**	**771**	**186**	**0**	**31**	**1**	**0**
Total µg/L-months						**546**	**11754**	**771**	**186**	**0**	**31**	**1**	**0**

Assumptions	proportion of time	days per week
non-field proportion days working 60hrs per week: HP water source	0.357142857	5
Training day fully in field	1	2
residential proportion day on training days	0	2

residential proportion
day on nontraining
days 0.642857143 5

Chart 1: Days on base and cumulative contaminant exposure concentrations (1 L consumption per day)

			Hadnot Point	Cumulative consumption (total ug= days*concentration per L)	Hadnot Point	Cumulative consumption (total ug= days*concentration per L)	Hadnot Point	Cumulative consumption (total ug= days*concentration per L)	Hadnot Point	Cumulative consumption (total ug= days*concentration per L)	Midway Park	Midway Park	Midway Park	Midway Park	1L concentration summaries
Week Days	Weekend	Total Days	TCE		PCE		VC		BZ		TCE	PCE	VC	BZ	1
5	2	7	268	1015	12	45	16	61	6	23	0	0	0	0	
20	8	28	370	5603	17	257	23	348	5	76	0	0	0	0	
22	9	31	378	6337	17	285	24	402	5	84	0	0	0	0	
17	7	24	230	2996	11	143	15	195	4	52	1	0	0	0	
19	6	25	274	3716	13	176	18	243	3	41	1	0	0	0	
21	9	30	320	5219	15	243	21	341	3	49	2	0	0	0	
22	9	31	361	6067	17	285	23	386	3	50	1	0	0	0	
23	8	31	483	8126	22	369	31	520	0	0	2	0	0	0	
20	10	30	358	5808	17	276	23	373	3	49	0	0	0	0	
10	4	14	71	538	3	23	4	30	4	30	0	0	0	0	
19	6	25	507	6855	23	311	33	446	6	81	0	0	0	0	
21	10	31	504	8450	23	386	33	553	6	101	0	0	0	0	
23	8	31	264	4426	12	201	17	285	7	117	0	0	0	0	
21	8	29	378	5928	17	267	24	376	6	94	0	0	0	0	
21	10	31	433	7259	20	335	28	469	6	101	0	0	0	0	
22	8	30	273	4429	12	195	17	276	8	130	0	0	0	0	
22	9	31	322	5398	15	251	21	352	6	101	0	0	0	0	
21	9	30	394	6503	18	292	26	436	6	97	8	0	1	0	
17	6	23	415	5162	20	249	27	336	6	75	0	0	0	0	
9	4	13	496	3487	23	162	33	232	7	49	0	0	0	0	
22	8	30	388	6295	18	292	26	422	7	114	0	0	0	0	
23	8	31	88	1475	3	50	5	84	8	134	0	0	0	0	
20	10	30	524	8502	25	406	35	568	7	114	0	0	0	0	
23	8	31	541	9070	26	436	37	620	6	101	0	0	0	0	
22	9	31	295	4946	14	235	19	319	8	134	0	0	0	0	
20	8	28	387	5860	18	273	26	394	7	106	0	0	0	0	
22	9	31	397	6656	19	319	27	453	6	101	0	0	0	0	
22	8	30	266	4371	12	195	17	276	9	146	4	0	0	0	
21	10	31	322	5455	15	251	22	369	7	117	4	0	0	0	
22	8	30	380	6220	18	292	26	422	7	114	4	0	0	0	
23	8	31	436	7338	21	352	30	503	6	101	2	0	0	0	
5	4	9	631	3080	30	146	44	214	8	39	2	0	0	0	
620	**248**	**868**	**11,754**	**172,591**	**546**	**7997**	**771**	**11303**	**186**	**2717**	**31**	**0**	**1**	-	

Chart 2: Days on base and cumulative contaminant exposure concentrations- ATSDR informed

			Hadnot Point	Cumulative consumption (total ug= days*concentration per L)	Hadnot Point	Cumulative consumption (total ug= days*concentration per L)	Hadnot Point	Cumulative consumption (total ug= days*concentration per L)	Hadnot Point	Cumulative consumption (total ug= days*concentration per L)	Midway Park	Midway Park	Midway Park	Midway Park	Days per week 3 ATSDR ingestion 6L/day 3 days per week	Days per week 4 ATSDR ingestion 6L/day 3 days per week and 3L per day 4 days per week

Week Days	Weekend	Total Days	TCE		PCE		VC		BZ		TCE	PCE	VC	BZ	6	3.1
5	2	7	268	6011	12	269	16	359	6	135	0	0	0	0		
20	8	28	370	33194	17	1525	23	2063	5	449	0	0	0	0		
22	9	31	378	37545	17	1689	24	2384	5	497	0	0	0	0		
17	7	24	230	17714	11	846	15	1153	4	308	1	0	0	0		
19	6	25	274	21976	13	1041	18	1442	3	240	1	0	0	0		
21	9	30	320	30828	15	1442	21	2019	3	288	2	0	0	0		
22	9	31	361	35892	17	1689	23	2285	3	298	1	0	0	0		
23	8	31	483	48045	22	2185	31	3079	0	0	2	0	0	0		
20	10	30	358	34412	17	1634	23	2211	3	288	0	0	0	0		
10	4	14	71	3185	3	135	4	179	4	179	0	0	0	0		
19	6	25	507	40612	23	1842	33	2643	6	481	0	0	0	0		
21	10	31	504	50061	23	2285	33	3278	6	596	0	0	0	0		
23	8	31	264	26222	12	1192	17	1689	7	695	0	0	0	0		
21	8	29	378	35123	17	1580	24	2230	6	558	0	0	0	0		
21	10	31	433	43008	20	1987	28	2781	6	596	0	0	0	0		
22	8	30	273	26241	12	1153	17	1634	8	769	0	0	0	0		
22	9	31	322	31983	15	1490	21	2086	6	596	0	0	0	0		
21	9	30	394	38146	18	1730	26	2533	6	577	8	0	1	0		
17	6	23	415	30583	20	1474	27	1990	6	442	0	0	0	0		
9	4	13	496	20660	23	958	33	1375	7	292	0	0	0	0		
22	8	30	388	37296	18	1730	26	2499	7	673	0	0	0	0		
23	8	31	88	8741	3	298	5	497	8	795	0	0	0	0		
20	10	30	524	50368	25	2403	35	3364	7	673	0	0	0	0		
23	8	31	541	53736	26	2582	37	3675	6	596	0	0	0	0		
22	9	31	295	29301	14	1391	19	1887	8	795	0	0	0	0		
20	8	28	387	34719	18	1615	26	2333	7	628	0	0	0	0		
22	9	31	397	39433	19	1887	27	2682	6	596	0	0	0	0		
22	8	30	266	25705	12	1153	17	1634	9	865	4	0	0	0		
21	10	31	322	32124	15	1490	22	2185	7	695	4	0	0	0		
22	8	30	380	36663	18	1730	26	2499	7	673	4	0	0	0		
23	8	31	436	43377	21	2086	30	2980	6	596	2	0	0	0		
5	4	9	631	18216	30	865	44	1269	8	231	2	0	0	0		
		868	**11,754**	**1,021,121**	**546**	**47376**	**771**	**66916**	**186**	**16097**	**31**	**0**	**1**	**-**		

Chart 3: Days on base and cumulative contaminant exposure concentrations- deposition informed activities and FM 1957-1983 averaged

Days per week: 2 | 5

			Hadnot Point	Cumulative consumption (total ug= days*concentration per L)	Hadnot Point	Cumulative consumption (total ug= days*concentration per L)	Hadnot Point	Cumulative consumption (total ug= days*concentration per L)	Hadnot Point	Cumulative consumption (total ug= days*concentration per L)	Midway Park	Midway Park	Midway Park	Midway Park	2 days per week training heavy activity from deposition; FM average 1957-1983; moderate day: desert/tropical <80oF	5 days per week light activity from deposition ; FM average 1957-1983; moderate day: desert/tropical <80oF
Week Days	**Weekend**	**Total Days**	**TCE**		**PCE**		**VC**		**BZ**		**TCE**	**PCE**	**VC**	**BZ**	**8.517177**	**5.204942**
5	2	7	268	7056	12	316	16	421	6	158	0	0	0	0		
20	8	28	370	38967	17	1790	23	2422	5	527	0	0	0	0		
22	9	31	378	44075	17	1982	24	2798	5	583	0	0	0	0		
17	7	24	230	20820	11	993	15	1354	4	361	1	0	0	0		

19	6	25	274	25824	13	1222	18	1693	3	282	1	0	0	0
21	9	30	320	36252	15	1693	21	2370	3	339	2	0	0	0
22	9	31	361	42166	17	1982	23	2682	3	350	1	0	0	0
23	8	31	483	56466	22	2565	31	3615	0	0	2	0	0	0
20	10	30	358	40396	17	1918	23	2595	3	339	0	0	0	0
10	4	14	71	3739	3	158	4	211	4	211	0	0	0	0
19	6	25	507	47674	23	2163	33	3103	6	564	0	0	0	0
21	10	31	504	58766	23	2682	33	3848	6	700	0	0	0	0
23	8	31	264	30782	12	1399	17	1982	7	816	0	0	0	0
21	8	29	378	41231	17	1854	24	2618	6	654	0	0	0	0
21	10	31	433	50488	20	2332	28	3265	6	700	0	0	0	0
22	8	30	273	30805	12	1354	17	1918	8	903	0	0	0	0
22	9	31	322	37545	15	1749	21	2449	6	700	0	0	0	0
21	9	30	394	45032	18	2031	26	3005	6	677	8	0	1	0
17	6	23	415	35901	20	1730	27	2336	6	519	0	0	0	0
9	4	13	496	24253	23	1125	33	1614	7	342	0	0	0	0
22	8	30	388	43781	18	2031	26	2934	7	790	0	0	0	0
23	8	31	88	10261	3	350	5	583	8	933	0	0	0	0
20	10	30	524	59127	25	2821	35	3949	7	790	0	0	0	0
23	8	31	541	63080	26	3032	37	4314	6	700	0	0	0	0
22	9	31	295	34397	14	1632	19	2215	8	933	0	0	0	0
20	8	28	387	40757	18	1896	26	2738	7	737	0	0	0	0
22	9	31	397	46290	19	2215	27	3148	6	700	0	0	0	0
22	8	30	266	30302	12	1354	17	1918	9	1016	4	0	0	0
21	10	31	322	37841	15	1749	22	2565	7	816	4	0	0	0
22	8	30	380	43165	18	2031	26	2934	7	790	4	0	0	0
23	8	31	436	50986	21	2449	30	3498	6	700	2	0	0	0
5	4	9	631	21403	30	1016	44	1489	8	271	2	0	0	0
		868	**11,754**	**1,199,627**	**546**	**55614**	**771**	**78584**	**186**	**18897**	**31**	**0**	**1**	**-**

Appendix 15

Bruce Wayne Hill (Leukemia)

Summed variable totals

		Chart 1: 1L	Chart 2: ATSDR civilian	Chart 3: FM
	Cumulative ug/l-M	Cumulative consumption (total ug= days*concentration per L)	Cumulative consumption (total ug= days*concentration per ATSDR exposure assumptions)	Cumulative consumption (total ug= days*concentration per deposition/FM exposure assumptions)
Hadnot Point				
TCE	8,950	247,025	276,469	593,066
PCE	428	11,815	13,223	28,370
VC	766	21,139	23,659	50,800
BZ	160	4,350	4,868	10,409
Holcomb Blvd				
TCE	100	2,902	2,823	8,457
PCE	-	-	-	-
VC	9	261	254	761
BZ	1	28	28	85
Totals HP & Holcomb Blvd				
TCE	9,050	249,927	279,292	601,523
PCE	428	11,815	13,223	28,370
VC	775	21,400	23,913	51,561
BZ	161	4,378	4,897	10,494

Exposure Dates	Total Days HP work	Total days HP residential	Holcomb Blvd residential	TCE (ug/l-M) HP	TCE (ug/l-M) Holcomb	Cumulative dose (HP & Holcomb)	Cumulative dose (Holcomb only)	Cumulative dose (HP only)	PCE (ug/l-M) HP	PCE (ug/l-M) Holcomb	Cumulative dose (HP & Holcomb)	Cumulative dose (Holcomb only)	Cumulative dose (HP only)	VC (ug/l-M) HP	VC(ug/l-M) Holcomb	Cumulative dose (HP & Holcomb)	Cumulative dose (Holcomb only)	Cumulative dose (HP only)	BZ (ug/l-M) HP	BZ (ug/l-M) Holcomb	Cumulative dose (HP & Holcomb)	Cumulative dose (Holcomb only)	Cumulative dose (HP only)	
7/11/1983-7/31/83	21	0	0	618	0				30	0				51	0				7	0				
8/1/83-8/31/83	31	0	0	659	0				32	0				54	0				9	0				
9/1/83-9/30/83	30	0	0	543	0				26	0				45	0				9	0				
10/1/83-10/31/83	31	0	0	134	0				5	0				9	0				10	0				
11/1/83-11/30/83	30	0	0	783	0				39	0				67	0				10	0				
12/1/83-12/21/1983	21	0	0	688	0				34	0				59	0				9	0				
12/22/83-12/31/83	10	0	10	688	0				34	0				59	0				9	0				
1/11/84-1/31/84	21	0	21	427	0				21	0				36	0				11	0				
2/1/1984	1	0	1	560	0				27	0				47	0				8	0				
2/2/84-2/29/84	28	0	28	560	0				27	0				47	0				8	0				
3/1/84-3/31/84	31	0	31	587	0				28	0				50	0				7	0				
4/1/84-4/30/84	30	0	30	400	0				18	0				33	0				12	0				
5/1/84-5/31/84	31	0	31	491	0				23	0				42	0				10	0				
6/1/84-6/30/84	30	0	30	471	0				22	0				41	0				7	0				
7/1/84-7/31/84	31	0	31	507	0				24	0				45	0				7	0				
8/1/84-8/11/84; 8/27/84-8/31/84	16	0	16	539	0				26	0				48	0				8	0				
9/1/84-9/15/84	15	0	15	443	0				21	0				39	0				8	0				
10/10/84-10/31/84	22	0	22	94	0				3	0				6	0				8	0				
11/1/84-11/30/84	30	0	30	639	0				31	0				59	0				8	0				
12/1/84-12/31/84	31	0	31	43	0				2	0				4	0				2	0				
1/1/85-1/31/85	31	0	31	324	34				16	0				31	3				4	0				
2/1/85-2/28/85	28	0	28	0	66				0	0				0	6				3	1				
3/1/85-3/18/85	18	0	18	0	0				0	0				0	0				3	0				
	568	-	404	8,950	100				428	-				766	9				160	1				

Chart 1 days on base and cumulative contaminant exposure concentrations (1 L consumption per day)

Exposure Dates	Total Days HP work	Total days HP residential	Holcomb Blvd	TCE (ug/l-M) HP	TCE (ug/l-M) Holcomb	Cumulative dose (HP & Holcomb)	Cumulative dose (Holcomb only)	Cumulative dose (HP only)	PCE (ug/l-M) HP	PCE (ug/l-M) Holcomb	Cumulative dose (HP & Holcomb)	Cumulative dose (Holcomb only)	Cumulative dose (HP only)	VC (ug/l-M) HP	VC (ug/l-M) Holcomb	Cumulative dose (HP & Holcomb)	Cumulative dose (Holcomb only)	Cumulative dose (HP only)	BZ (ug/l-M) HP	BZ (ug/l-M) Holcomb	Cumulative dose (HP & Holcomb)	Cumulative dose (Holcomb only)	Cumulative dose (HP only)	Daily ingestion (L)
																								1
7/11/1983-7/31/83	21	0	0	618	0	12978	0	12978	30	0	630	0	630	51	0	1071	0	1071	7	0	147	0	147	
8/1/83-8/31/83	31	0	0	659	0	20429	0	20429	32	0	992	0	992	54	0	1674	0	1674	9	0	279	0	279	
9/1/83-9/30/83	30	0	0	543	0	16290	0	16290	26	0	780	0	780	45	0	1350	0	1350	9	0	270	0	270	
10/1/83-10/31/83	31	0	0	134	0	4154	0	4154	5	0	155	0	155	9	0	279	0	279	10	0	310	0	310	
11/1/83-11/30/83	30	0	0	783	0	23490	0	23490	39	0	1170	0	1170	67	0	2010	0	2010	10	0	300	0	300	
12/1/83-12/21/1983	21	0	0	688	0	14448	0	14448	34	0	714	0	714	59	0	1239	0	1239	9	0	189	0	189	
12/22/83-12/31/83	10	0	10	688	0	6880	0	6880	34	0	340	0	340	59	0	590	0	590	9	0	90	0	90	
1/11/84-1/31/84	21	0	21	427	0	8967	0	8967	21	0	441	0	441	36	0	756	0	756	11	0	231	0	231	
2/1/1984	1	0	1	560	0	560	0	560	27	0	27	0	27	47	0	47	0	47	8	0	8	0	8	
2/2/84-2/29/84	28	0	28	560	0	15680	0	15680	27	0	756	0	756	47	0	1316	0	1316	8	0	224	0	224	
3/1/84-3/31/84	31	0	31	587	0	18197	0	18197	28	0	868	0	868	50	0	1550	0	1550	7	0	217	0	217	
4/1/84-4/30/84	30	0	30	400	0	12000	0	12000	18	0	540	0	540	33	0	990	0	990	12	0	360	0	360	
5/1/84-5/31/84	31	0	31	491	0	15221	0	15221	23	0	713	0	713	42	0	1302	0	1302	10	0	310	0	310	
6/1/84-6/30/84	30	0	30	471	0	14130	0	14130	22	0	660	0	660	41	0	1230	0	1230	7	0	210	0	210	
7/1/84-7/31/84	31	0	31	507	0	15717	0	15717	24	0	744	0	744	45	0	1395	0	1395	7	0	217	0	217	
8/1/84-8/11/84; 8/27/84-8/31/84	16	0	16	539	0	8624	0	8624	26	0	416	0	416	48	0	768	0	768	8	0	128	0	128	
9/1/84-9/15/84	15	0	15	443	0	6645	0	6645	21	0	315	0	315	39	0	585	0	585	8	0	120	0	120	
10/10/84-10/31/84	22	0	22	94	0	2068	0	2068	3	0	66	0	66	6	0	132	0	132	8	0	176	0	176	
11/1/84-11/30/84	30	0	30	639	0	19170	0	19170	31	0	930	0	930	59	0	1770	0	1770	8	0	240	0	240	
12/1/84-12/31/84	31	0	31	43	0	1333	0	1333	2	0	62	0	62	4	0	124	0	124	2	0	62	0	62	
1/1/85-1/31/85	31	0	31	324	34	11098	1054	10044	16	0	496	0	496	31	3	1054	93	961	4	0	124	0	124	
2/1/85-2/28/85	28	0	28	0	66	1848	1848	0	0	0	0	0	0	0	6	168	168	0	3	1	112	28	84	
3/1/85-3/18/85	18	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	54	0	54	
	568	-	404			249,927	2,902	247,025			11,815	-	11,815			21,400	261	21,139			4,378	28	4,350	

Chart 2: Days on base and cumulative contaminant exposure concentrations (3 PT Training Days/week @ 3 liters/day, 4 Non-PT Training Days/week @ 1.2 liters/day)

Exposure Dates	Total Days HP work	Total days HP residential	Holcomb Blvd	TCE (ug/l-M) HP	TCE (ug/l-M) Holcomb	Cumulative dose (HP & Holcomb)	Cumulative dose (Holcomb only)	Cumulative dose (HP only)	PCE (ug/l-M) HP	PCE (ug/l-M) Holcomb	Cumulative dose (HP & Holcomb)	Cumulative dose (Holcomb only)	Cumulative dose (HP only)	VC (ug/l-M) HP	VC (ug/l-M) Holcomb	Cumulative dose (HP & Holcomb)	Cumulative dose (Holcomb only)	Cumulative dose (HP only)	BZ (ug/l-M) HP	BZ (ug/l-M) Holcomb	Cumulative dose (HP & Holcomb)	Cumulative dose (Holcomb only)	Cumulative dose (HP only)	Civilian worker 3 days @3L	Civilian worker 4 days @ 1.227
																								3.1	1.227
7/11/1983-7/31/83	21	0	0	618	0	14525	0	14525	30	0	705	0	705	51	0	1199	0	1199	7	0	165	0	165	3	4
8/1/83-8/31/83	31	0	0	659	0	22864	0	22864	32	0	1110	0	1110	54	0	1874	0	1874	9	0	312	0	312		
9/1/83-9/30/83	30	0	0	543	0	18232	0	18232	26	0	873	0	873	45	0	1511	0	1511	9	0	302	0	302	PT days	0.667
10/1/83-10/31/83	31	0	0	134	0	4649	0	4649	5	0	173	0	173	9	0	312	0	312	10	0	347	0	347	residential proportion day on PT days	0.333
11/1/83-11/30/83	30	0	0	783	0	26290	0	26290	39	0	1309	0	1309	67	0	2250	0	2250	10	0	336	0	336		
12/1/83-12/21/1983	21	0	0	688	0	16170	0	16170	34	0	799	0	799	59	0	1387	0	1387	9	0	212	0	212	HP light/Nontraining ingestion proportion days	0.333
12/22/83-12/31/83	10	0	10	688	0	7700	0	7700	34	0	381	0	381	59	0	660	0	660	9	0	101	0	101		
1/11/84-1/31/84	21	0	10	427	0	10036	0	10036	21	0	494	0	494	36	0	846	0	846	11	0	259	0	259	residential proportion day on nontraining days	0.667
2/1/1984	1	0	21	560	0	627	0	627	27	0	30	0	30	47	0	53	0	53	8	0	9	0	9		
2/2/84-2/29/84	28	0	1	560	0	17549	0	17549	27	0	846	0	846	47	0	1473	0	1473	8	0	251	0	251		
3/1/84-3/31/84	31	0	28	587	0	20366	0	20366	28	0	971	0	971	50	0	1735	0	1735	7	0	243	0	243		
4/1/84-4/30/84	30	0	31	400	0	13430	0	13430	18	0	604	0	604	33	0	1108	0	1108	12	0	403	0	403		
5/1/84-5/31/84	31	0	30	491	0	17035	0	17035	23	0	798	0	798	42	0	1457	0	1457	10	0	347	0	347		
6/1/84-6/30/84	30	0	31	471	0	15814	0	15814	22	0	739	0	739	41	0	1377	0	1377	7	0	235	0	235		
7/1/84-7/31/84	31	0	30	507	0	17590	0	17590	24	0	833	0	833	45	0	1561	0	1561	7	0	243	0	243		
8/1/84-8/26/84; 8/27/84-8/31/84	16	0	31	539	0	9652	0	9652	26	0	466	0	466	48	0	860	0	860	8	0	143	0	143		
9/1/84-9/15/84	15	0	16	443	0	7437	0	7437	21	0	353	0	353	39	0	655	0	655	8	0	134	0	134		
10/10/84-10/31/84	22	0	15	94	0	2314	0	2314	3	0	74	0	74	6	0	148	0	148	8	0	197	0	197		
11/1/84-11/30/84	30	0	22	639	0	21455	0	21455	31	0	1041	0	1041	59	0	1981	0	1981	8	0	269	0	269		
12/1/84-12/31/84	31	0	30	43	0	1492	0	1492	2	0	69	0	69	4	0	139	0	139	2	0	69	0	69		
1/1/85-1/31/85	31	0	31	324	34	12201	960	11241	16	0	555	0	555	31	3	1160	85	1076	4	0	139	0	139		
2/1/85-2/28/85	28	0	31	0	66	1863	1863	0	0	0	0	0	0	0	6	169	169	0	3	1	122	28	94		
3/1/85-3/18/85	18	0	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	60	0	60		
	568	-	396			279,292	2,823	276,469			13,223	-	13,223			23,913	254	23,659			4,897	28	4,868		

Chart 3: Days on base and cumulative contaminant exposure concentrations; FM 1957-1983 moderate day averages

Exposure Dates	Total Days HP work	Total days HP residential	Holcomb Blvd	TCE (ug/l-M) HP	TCE (ug/l-M) Holcomb	Cumulative dose (HP & Holcomb)	Cumulative dose (Holcomb only)	Cumulative dose (HP only)	PCE (ug/l-M) HP	PCE (ug/l-M) Holcomb	Cumulative dose (HP & Holcomb)	Cumulative dose (Holcomb only)	Cumulative dose (HP only)	VC (ug/l-M) HP	VC (ug/l-M) Holcomb	Cumulative dose (HP & Holcomb)	Cumulative dose (Holcomb only)	Cumulative dose (HP only)	BZ (ug/l-M) HP	BZ (ug/l-M) Holcomb	Cumulative dose (HP & Holcomb)	Cumulative dose (Holcomb only)	Cumulative dose (HP only)	3 days per week training heavy activity; FM average 1957-1983; moderate day: desert/tropical <80oF	4 days per week training light activity; FM average 1957-1983; moderate day: desert/tropical <80oF
																								5.21	5.21
7/11/1983-7/31/83	21	0	0	618	0	32173	0	32173	30	0	1562	0	1562	51	0	2655	0	2655	7	0	364	0	364	3	4
8/1/83-8/31/83	31	0	0	659	0	50644	0	50644	32	0	2459	0	2459	54	0	4150	0	4150	9	0	692	0	692		
9/1/83-9/30/83	30	0	0	543	0	40383	0	40383	26	0	1934	0	1934	45	0	3347	0	3347	9	0	669	0	669	PT days	0.667
10/1/83-10/31/83	31	0	0	134	0	10298	0	10298	5	0	384	0	384	9	0	692	0	692	10	0	768	0	768	residential proportion day on PT days	0.333
11/1/83-11/30/83	30	0	0	783	0	58232	0	58232	39	0	2900	0	2900	67	0	4983	0	4983	10	0	744	0	744		
12/1/83-12/21/1983	21	0	0	688	0	35817	0	35817	34	0	1770	0	1770	59	0	3071	0	3071	9	0	469	0	469	HP light/Nontraining ingestion proportion days	0.333
12/22/83-12/31/83	10	0	10	688	0	17056	0	17056	34	0	843	0	843	59	0	1463	0	1463	9	0	223	0	223		
1/11/84-1/31/84	10	0	10	427	0	10585	0	10585	21	0	521	0	521	36	0	892	0	892	11	0	273	0	273	residential proportion day on nontraining days	0.667
2/1/1984	21	0	21	560	0	29153	0	29153	27	0	1406	0	1406	47	0	2447	0	2447	8	0	416	0	416		
2/2/84-2/29/84	1	0	1	560	0	1388	0	1388	27	0	67	0	67	47	0	117	0	117	8	0	20	0	20		

3/1/84-3/31/84	28	0	28	587	0	40745	0	40745	28	0	1944	0	1944	50	0	3471	0	3471	7	0	486	0	486
4/1/84-4/30/84	31	0	31	400	0	30740	0	30740	18	0	1383	0	1383	33	0	2536	0	2536	12	0	922	0	922
5/1/84-5/31/84	30	0	30	491	0	36516	0	36516	23	0	1711	0	1711	42	0	3124	0	3124	10	0	744	0	744
6/1/84-6/30/84	31	0	31	471	0	36196	0	36196	22	0	1691	0	1691	41	0	3151	0	3151	7	0	538	0	538
7/1/84-7/31/84	30	0	30	507	0	37706	0	37706	24	0	1785	0	1785	45	0	3347	0	3347	7	0	521	0	521
8/1/84-8/11/84; 8/27/84-8/31/84	31	0	31	539	0	41422	0	41422	26	0	1998	0	1998	48	0	3689	0	3689	8	0	615	0	615
9/1/84-9/15/84	16	0	16	443	0	17571	0	17571	21	0	833	0	833	39	0	1547	0	1547	8	0	317	0	317
10/10/84-10/31/84	15	0	15	94	0	3495	0	3495	3	0	112	0	112	6	0	223	0	223	8	0	297	0	297
11/1/84-11/30/84	22	0	22	639	0	34850	0	34850	31	0	1691	0	1691	59	0	3218	0	3218	8	0	436	0	436
12/1/84-12/31/84	30	0	30	43	0	3198	0	3198	2	0	149	0	149	4	0	297	0	297	2	0	149	0	149
1/1/85-1/31/85	31	0	31	324	34	27775	2875	24899	16	0	1230	0	1230	31	3	2636	254	2382	4	0	307	0	307
2/1/85-2/28/85	31	0	31	0	66	5582	5582	0	0	0	0	0	0	0	6	507	507	0	3	1	315	85	231
3/1/85-3/28/85	28	0	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	208	0	208
	560	-	**396**			**601,523**	**8,457**	**593,066**			**28,370**	**-**	**28,370**			**51,561**	**761**	**50,800**			**10,494**	**85**	**10,409**

Appendix 16

Frances Carter: For Estate of Ronald Lee Carter (Non-Hodgkin's Lymphoma)

		Chart 1: 1L	Chart 2: Deposition informed coffee consumption (5.41L)	Chart 3: Deposition informed summer (2.75L/other months 1.75L consumption	Chart 4: ATSDR Civilian estimate RME (3.09L)	Chart 5: ATSDR Civilian estimate CTE (1.23L)
	Cumulative ug/l-M	Cumulative consumption (total ug= days*concentration per L)	Cumulative consumption (total ug= days*concentration per deposition)	Cumulative consumption (total ug= days*concentration per deposition/summer)	Cumulative consumption ATSDR RME (total ug= days*concentration per L)	Cumulative consumption ATSDR CTE (total ug= days*concentration per L)
Hadnot Point						
TCE	25603	553,183	996,254	386,741	569,577	226,026
PCE	864	18,716	33,707	13,106	19,271	7,647
VC	1311	28,366	51,086	19,856	29,207	11,590
BZ	387	8,291	14,932	5,702	8,537	3,388
Terawa Terrace						
TCE	225	3,590	4,414	1,700	2,524	1,002
PCE	7040	112,170	137,956	53,017	78,872	31,299
VC	407	6,559	7,972	3,079	4,558	1,809
BZ	0	-	-	-	-	-
Midway Park						
TCE	49	528	950	457	543	216
PCE	-	-	-	-	-	-
VC	1	11	19	10	11	4
BZ	-	-	-	-	-	-
Sum all locations						
TCE	**25877**	**557,300**	**1,001,619**	**388,899**	**572,644**	**227,243**
PCE	**7904**	**130,886**	**171,663**	**66,122**	**98,143**	**38,946**
VC	**1719**	**34,935**	**59,077**	**22,945**	**33,775**	**13,403**
BZ	**387**	**8,291**	**14,932**	**5,702**	**8,537**	**3,388**

Finished Water Concentration [µg/L]

								Tarawa Terrace		Tarawa Terrace		Tarawa Terrace		Tarawa Terrace		Hadnot Point		Hadnot Point		Hadnot Point		Hadnot Point		Midway Park		Midway Park		Midway Park		Midway Park	
Exposure Period	Camp Lejeune Potential Exposure (Days)	Exposure Period Start	Exposure Period End	Week Days	Weekend	Total Days	Volume Consumed (summer vs winter)	PCE		TCE		VC		BZ		PCE		TCE		VC		BZ		PCE		TCE		VC		BZ
1	2279	2/1/1968	2/29/1968	21	8	29	1.75									0		26		0		1								
		3/1/1968	3/31/1968	21	10	31	1.75									0		23		0		1								
		4/1/1968	4/30/1968	22	8	30	2.75									0		30		0		1								
		5/1/1968	5/31/1968	23	8	31	2.75									0		24		0		1								
		6/1/1968	6/30/1968	20	10	30	2.75									0		24		0		1								
		7/1/1968	7/31/1968	23	8	31	2.75									0		25		0		1								
		8/1/1968	8/31/1968	22	9	31	2.75									0		32		0		1								
		9/1/1968	9/30/1968	21	9	30	1.75									0		28		0		1								
		10/1/1968	10/31/1968	23	8	31	1.75									0		31		0		1								
		11/1/1968	11/30/1968	21	9	30	1.75									0		31		0		2								
		12/1/1968	12/31/1968	22	9	31	1.75									0		29		0		1								
		1/1/1969	1/31/1969	23	8	31	1.75									0		28		0		1								
		2/1/1969	2/28/1969	20	8	28	1.75									0		28		0		1								
		3/1/1969	3/31/1969	21	10	31	1.75									0		23		0		1								
		4/1/1969	4/30/1969	22	8	30	1.75									0		32		0		2								
		5/1/1969	5/31/1969	22	9	31	2.75									0		26		0		1								
		6/1/1969	6/30/1969	21	9	30	2.75									0		26		0		1								
		7/1/1969	7/31/1969	23	8	31	2.75									0		24		0		1								
		8/1/1969	8/31/1969	21	10	31	2.75									0		18		0		1								
		9/1/1969	9/30/1969	22	8	30	1.75									0		8		0		1								
		10/1/1969	10/31/1969	23	8	31	1.75									0		8		0		1								
		11/1/1969	11/30/1969	20	10	30	1.75									0		24		0		2								
		12/1/1969	12/31/1969	23	8	31	1.75									0		24		0		2								
		1/1/1970	1/31/1970	22	9	31	1.75									0		23		0		2								
		2/1/1970	2/28/1970	20	8	28	1.75									0		23		0		2								
		3/1/1970	3/31/1970	22	9	31	1.75									0		19		0		1								
		4/1/1970	4/30/1970	22	8	30	1.75									0		26		0		2								
		5/1/1970	5/31/1970	21	10	31	2.75									0		20		0		2								
		6/1/1970	6/30/1970	22	8	30	2.75									0		20		0		2								
		7/1/1970	7/31/1970	23	8	31	2.75									0		20		0		2								
		8/1/1970	8/31/1970	21	10	31	2.75									0		24		0		2								
		9/1/1970	9/30/1970	22	8	30	1.75									0		21		0		2								
		10/1/1970	10/31/1970	22	9	31	1.75									0		23		0		2								
		11/1/1970	11/30/1970	21	9	30	1.75									0		25		0		3								
		12/1/1970	12/31/1970	23	8	31	1.75									0		22		0		2								
		1/1/1971	1/31/1971	21	10	31	1.75									0		22		0		2								
		2/1/1971	2/28/1971	20	8	28	1.75									0		21		0		2								
		3/1/1971	3/31/1971	23	8	31	1.75									0		17		0		2								
		4/1/1971	4/30/1971	22	8	30	1.75									0		24		0		3								
		5/1/1971	5/31/1971	21	10	31	2.75									0		19		0		2								
		6/1/1971	6/30/1971	22	8	30	2.75									0		19		0		2								
		7/1/1971	7/31/1971	22	9	31	2.75									0		19		0		2								
		8/1/1971	8/2/1971	1	1	2	2.75									0		24		0		3								
2	1100	8/21/1972	8/31/1972	9	2	11	2.75									0		20		1		3								
		9/1/1972	9/30/1972	21	9	30	1.75									0		18		1		2								
		10/1/1972	10/31/1972	22	9	31	1.75									0		18		0		3								
		11/1/1972	11/30/1972	22	8	30	1.75									0		25		3		3								
		12/1/1972	12/31/1972	21	10	31	1.75									0		32		3		2								
		1/1/1973	1/31/1973	23	8	31	1.75									0		27		2		3								
		2/1/1973	2/28/1973	20	8	28	1.75									0		34		3		2								
		3/1/1973	3/31/1973	22	9	31	1.75									0		38		3		2								
		4/1/1973	4/30/1973	21	9	30	1.75									0		38		2		3								
		5/1/1973	5/31/1973	23	8	31	2.75									0		43		3		3								
		6/1/1973	6/30/1973	21	9	30	2.75									0		57		4		3								
		7/1/1973	7/31/1973	22	9	31	2.75									1		73		5		3								
		8/1/1973	8/31/1973	23	8	31	2.75									1		109		7		3								
		9/1/1973	9/30/1973	20	10	30	1.75									1		96		5		3								
		10/1/1973	10/31/1973	23	8	31	1.75									0		31		1		3								
		11/1/1973	11/30/1973	22	8	30	1.75									2		187		10		3								
		12/1/1973	12/31/1973	21	10	31	1.75									3		201		10		2								
		1/1/1974	1/31/1974	23	8	31	1.75									1		106		5		3								
		2/1/1974	2/28/1974	20	8	28	1.75									2		152		7		2								
		3/1/1974	3/31/1974	21	10	31	1.75									3		163		7		2								
		4/1/1974	4/30/1974	22	8	30	1.75									2		116		5		3								
		5/1/1974	5/31/1974	23	8	31	2.75									2		142		6		2								
		6/1/1974	6/30/1974	20	10	30	2.75									3		179		8		2								
		7/1/1974	7/31/1974	23	8	31	2.75									4		209		9		2								
		8/1/1974	8/31/1974	22	9	31	2.75									5		274		12		3								
		9/1/1974	9/30/1974	21	9	30	1.75									4		217		9		3								
		10/1/1974	10/31/1974	23	8	31	1.75									1		50		2		3								
		11/1/1974	11/30/1974	21	9	30	1.75									8		399		17		3								
		12/1/1974	12/31/1974	22	9	31	1.75									8		369		15		3								
		1/1/1975	1/31/1975	23	8	31	1.75									4		179		7		3								
		2/1/1975	2/28/1975	20	8	28	1.75									6		252		11		3								
		3/1/1975	3/31/1975	21	10	31	1.75									6		261		11		2								
		4/1/1975	4/30/1975	22	8	30	1.75									4		174		7		3								
		5/1/1975	5/31/1975	22	9	31	2.75									5		211		9		3								
		6/1/1975	6/30/1975	21	9	30	2.75									7		260		11		2								
		7/1/1975	7/31/1975	23	8	31	2.75									8		294		13		3								
		8/1/1975	8/25/1975	17	8	25	2.75									10		368		16		3								
3	1732	9/3/1975	9/30/1975	20	8	28	1.75									8		285		12		3								
		10/1/1975	10/31/1975	23	8	31	1.75									1		61		2		3								
		11/1/1975	11/30/1975	20	10	30	1.75									14		503		23		3								
		12/1/1975	12/31/1975	23	8	31	1.75									13		451		20		3								
		1/1/1976	1/31/1976	22	9	31	1.75									7		227		10		3								
		2/1/1976	2/29/1976	20	9	29	1.75									10		317		14		3								
		3/1/1976	3/31/1976	23	8	31	1.75									10		323		15		2								

	4/1/1976	4/30/1976	22	8	30	1.75									6		212		9		4									
	5/1/1976	5/31/1976	21	10	31	2.75									8		257		12		3									
	6/1/1976	6/30/1976	22	8	30	2.75									10		314		15		3									
	7/1/1976	7/31/1976	22	9	31	2.75									12		348		16		3									
	8/1/1976	8/31/1976	22	9	31	2.75									15		436		20		4									
	9/1/1976	9/30/1976	22	8	30	1.75									11		336		16		3									
	10/1/1976	10/31/1976	21	10	31	1.75									2		70		3		3									
	11/1/1976	11/30/1976	22	8	30	1.75									19		543		26		4									
	12/1/1976	12/31/1976	23	8	31	1.75									19		520		25		3									
	1/1/1977	1/31/1977	21	10	31	1.75									9		249		12		4									
	2/1/1977	2/28/1977	20	8	28	1.75									13		346		17		3									
	3/1/1977	3/31/1977	23	8	31	1.75									13		342		17		2									
	4/1/1977	4/30/1977	21	9	30	1.75									8		218		11		4									
	5/1/1977	5/31/1977	22	9	31	2.75									10		264		13		3									
	6/1/1977	6/30/1977	22	8	30	2.75									12		320		17		3									
	7/1/1977	7/31/1977	21	10	31	2.75									14		355		19		3									
	8/1/1977	8/31/1977	23	8	31	2.75									17		440		23		4									
	9/1/1977	9/30/1977	22	8	30	1.75									13		338		18		4									
	10/1/1977	10/31/1977	21	10	31	1.75									2		69		3		4									
	11/1/1977	11/30/1977	22	8	30	1.75									22		544		30		4									
	12/1/1977	12/31/1977	22	9	31	1.75									21		513		28		4									
	1/1/1978	1/31/1978	22	9	31	1.75									10		250		14		4									
	2/1/1978	2/28/1978	20	8	28	1.75									14		348		19		3									
	3/1/1978	3/31/1978	23	8	31	1.75									15		352		20		3									
	4/1/1978	4/30/1978	20	10	30	1.75									9		231		13		5									
	5/1/1978	5/31/1978	23	8	31	2.75									12		278		16		4									
	6/1/1978	6/30/1978	22	8	30	2.75									14		333		19		3									
	7/1/1978	7/31/1978	21	10	31	2.75									17		388		23		3									
	8/1/1978	8/31/1978	23	8	31	2.75									20		475		28		4									
	9/1/1978	9/30/1978	21	9	30	1.75									16		364		22		4									
	10/1/1978	10/31/1978	22	9	31	1.75									3		74		4		4									
	11/1/1978	11/30/1978	22	8	30	1.75									24		544		33		5									
	12/1/1978	12/31/1978	21	10	31	1.75									24		546		33		4									
	1/1/1979	1/31/1979	23	8	31	1.75									12		268		16		6									
	2/1/1979	2/28/1979	20	8	28	1.75									17		370		23		5									
	3/1/1979	3/31/1979	22	9	31	1.75									17		378		24		5									
	4/1/1979	4/30/1979	21	9	30	1.75									11		230		15		4									
	5/1/1979	5/31/1979	23	8	31	2.75									13		274		18		3									
	6/1/1979	6/30/1979	21	9	30	2.75									15		320		21		3									
	7/1/1979	7/31/1979	22	9	31	2.75									17		361		23		3									
	8/1/1979	8/31/1979	23	8	31	2.75									22		483		31		0									
	9/1/1979	9/30/1979	20	10	30	1.75									17		358		23		3									
	10/1/1979	10/31/1979	23	8	31	1.75									3		71		4		4									
	11/1/1979	11/30/1979	22	8	30	1.75									23		507		33		6									
	12/1/1979	12/31/1979	21	10	31	1.75									23		504		33		6									
	1/1/1980	1/31/1980	23	8	31	1.75									12		264		17		7									
	2/1/1980	2/29/1980	21	8	29	1.75									17		378		24		6									
	3/1/1980	3/31/1980	21	10	31	1.75									20		433		28		6									
	4/1/1980	4/30/1980	22	8	30	2.75									12		273		17		8									
	5/1/1980	5/30/1980	22	8	30	2.75									15		322		21		6									
4	194	6/1/1980	6/30/1980	21	9	30	2.75	126		4		7		0									0		8		1		0	Note that this time period was split working at Tarawa and Hadnot Point
		7/1/1980	7/31/1980	23	8	31	2.75	1		0		0		0									0		0		0		0	
		8/1/1980	8/31/1980	21	10	31	2.75	1		0		0		0									0		0		0		0	split with Midway park 50/50
		9/1/1980	9/30/1980	22	8	30	1.75	121		4		7		0									0		0		0		0	
		10/1/1980	10/31/1980	23	8	31	1.75	122		4		6		0									0		0		0		0	
		11/1/1980	11/30/1980	20	10	30	1.75	122		4		6		0									0		0		0		0	
		12/1/1980	12/31/1980	23	8	31	1.75	123		4		6		0									0		0		0		0	
		1/1/1981	1/31/1981	22	9	31	1.75	114		3		5		0									0		0		0		0	
		2/1/1981	2/28/1981	20	8	28	1.75	114		3		6		0									0		0		0		0	
		3/1/1981	3/31/1981	22	9	31	1.75	116		3		5		0									0		0		0		0	
		4/1/1981	4/30/1981	22	8	30	1.75	117		3		6		0									0		4		0		0	
		5/1/1981	5/31/1981	21	10	31	2.75	117		4		6		0									0		4		0		0	
		6/1/1981	6/30/1981	22	8	30	2.75	118		4		6		0									0		4		0		0	
		7/1/1981	7/31/1981	23	8	31	2.75	133		4		7		0									0		2		0		0	
		8/1/1981	8/31/1981	21	10	31	2.75	134		4		8		0									0		2		0		0	
		9/1/1981	9/30/1981	22	8	30	1.75	121		4		7		0									0		0		0		0	
		10/1/1981	10/31/1981	22	9	31	1.75	121		4		7		0									0		0		0		0	
		11/1/1981	11/30/1981	21	9	30	1.75	121		4		7		0									0		0		0		0	
		12/1/1981	12/31/1981	23	8	31	1.75	122		4		7		0									0		0		0		0	
		1/1/1982	1/31/1982	21	10	31	1.75	104		3		6		0									0		0		0		0	
		2/1/1982	2/28/1982	20	8	28	1.75	106		3		6		0									0		0		0		0	
		3/1/1982	3/31/1982	23	8	31	1.75	108		4		6		0									0		0		0		0	
		4/1/1982	4/30/1982	22	8	30	1.75	109		4		7		0									0		3		0		0	
		5/1/1982	5/31/1982	21	10	31	2.75	149		5		9		0									0		6		0		0	
		6/1/1982	6/30/1982	22	8	30	2.75	111		4		7		0									0		4		0		0	
		7/1/1982	7/31/1982	22	9	31	2.75	112		4		7		0									0		4		0		0	
		8/1/1982	8/31/1982	22	9	31	2.75	113		4		7		0									0		3		0		0	
		9/1/1982	9/30/1982	22	8	30	1.75	114		4		7		0									0		0		0		0	
		10/1/1982	10/31/1982	21	10	31	1.75	115		4		8		0									0		0		0		0	
		11/1/1982	11/30/1982	22	8	30	1.75	114		4		8		0									0		0		0		0	
		12/1/1982	12/31/1982	23	8	31	1.75	115		4		7		0									0		0		0		0	
		1/1/1983	1/31/1983	21	10	31	1.75	1		0		0		0									0		0		0		0	
		2/1/1983	2/28/1983	20	8	28	1.75	1		0		0		0									0		0		0		0	
		3/1/1983	3/31/1983	23	8	31	1.75	112		4		6		0									0		0		0		0	
		4/1/1983	4/30/1983	21	9	30	1.75	113		3		6		0									0		0		0		0	
		5/1/1983	5/30/1983	21	9	30	2.75	114		4		6		0									0		5		0		0	
5	203	6/1/1983	6/30/1983	22	8	30	2.75	106		3		6		0																
		7/1/1983	7/31/1983	21	10	31	2.75	117		4		7		0																
		8/1/1983	8/31/1983	23	8	31	2.75	118		4		7		0																
		9/1/1983	9/30/1983	22	8	30	1.75	118		4		7		0																
		10/1/1983	10/31/1983	21	10	31	1.75	118		4		7		0																
		11/1/1983	11/30/1983	22	8	30	1.75	119		4		7		0																
		12/1/1983	12/31/1983	22	9	31	1.75	121		4		7		0																
		1/1/1984	1/31/1984	22	9	31	1.75	133		5		8		0																
		2/1/1984	2/29/1984	21	8	29	1.75	180		6		11		0																
		3/1/1984	3/31/1984	22	9	31	1.75	183		6		12		0																
		4/1/1984	4/30/1984	21	9	30	1.75	151		6		10		0																

		5/1/1984	5/31/1984	23	8	31	2.75	153		5		10		0	
		6/1/1984	6/30/1984	21	9	30	2.75	182		7		12		0	
		7/1/1984	7/31/1984	22	9	31	2.75	156		6		11		0	
		8/1/1984	8/31/1984	23	8	31	2.75	170		5		9		0	
		9/1/1984	9/30/1984	20	10	30	1.75	181		6		11		0	
		10/1/1984	10/31/1984	23	8	31	1.75	174		6		9		0	
		11/1/1984	11/30/1984	22	8	30	1.75	174		5		9		0	
		12/1/1984	12/31/1984	21	10	31	1.75	173		5		8		0	
		1/1/1985	1/31/1985	23	8	31	1.75	176		5		8		0	
		2/1/1985	2/28/1985	20	8	28	1.75	4		0		0		0	
		3/1/1985	3/31/1985	21	10	31	1.75	9		0		0		0	
		4/1/1985	4/30/1985	22	8	30	1.75	8		0		0		0	
		5/1/1985	5/31/1985	23	8	31	2.75	5		0		0		0	
		6/1/1985	6/30/1985	20	10	30	2.75	5		0		0		0	
		7/1/1985	7/31/1985	23	8	31	2.75	6		0		0		0	
		8/1/1985	8/31/1985	22	9	31	2.75	6		0		1		0	
		9/1/1985	9/30/1985	21	9	30	1.75	7		0		1		0	
		10/1/1985	10/31/1985	23	8	31	1.75	7		0		1		0	
		11/1/1985	11/30/1985	21	9	30	1.75	8		0		1		0	
		12/1/1985	12/31/1985	22	9	31	1.75	8		0		1		0	
		1/1/1986	1/31/1986	23	8	31	1.75	9		0		1		0	
		2/1/1986	2/28/1986	20	8	28	1.75	9		0		1		0	
		3/1/1986	3/31/1986	21	10	31	1.75	12		0		1		0	
		4/1/1986	4/30/1986	22	8	30	1.75	11		0		1		0	
		5/1/1986	5/31/1986	22	9	31	2.75	12		0		1		0	
		6/1/1986	6/30/1986	21	9	30	2.75	12		0		1		0	
		7/1/1986	7/31/1986	23	8	31	2.75	13		0		1		0	
		8/1/1986	8/31/1986	21	10	31	2.75	14		0		1		0	
		9/1/1986	9/12/1986	10	2	12	1.75	15		0		1		0	
6	460	9/28/1986	9/30/1986	2	1	3	1.75	15		0		1		0	
		10/1/1986	10/31/1986	23	8	31	1.75	15		0		1		0	
		11/1/1986	11/30/1986	20	10	30	1.75	16		0		1		0	
		12/1/1986	12/31/1986	23	8	31	1.75	17		0		1		0	
		1/1/1987	1/31/1987	22	9	31	1.75	18		0		1		0	
		2/1/1987	2/28/1987	20	8	28	1.75	18		0		1		0	
		3/1/1987	3/31/1987	22	9	31	1.75	0		0		0		0	
		4/1/1987	4/30/1987	22	8	30	1.75	0		0		0		0	
		5/1/1987	5/31/1987	21	10	31	2.75	0		0		0		0	
		6/1/1987	6/30/1987	22	8	30	2.75	0		0		0		0	
		7/1/1987	7/31/1987	23	8	31	2.75	0		0		0		0	
		8/1/1987	8/31/1987	21	10	31	2.75	0		0		0		0	
		9/1/1987	9/30/1987	22	8	30	1.75	0		0		0		0	
		10/1/1987	10/31/1987	22	9	31	1.75	0		0		0		0	
		11/1/1987	11/30/1987	21	9	30	1.75	0		0		0		0	
		12/1/1987	12/31/1987	23	8	31	1.75	0		0		0		0	
				4905	**1960**	**6865**									

Duplicate month, do not include in cumulative monthly exposure

Total µg/L-Months	PCE		TCE		VC		BZ		PCE		TCE		VC		BZ		PCE		TCE		VC		BZ
	7040		**225**		**407**		**0**		**864**		**25603**		**1311**		**387**		**0**		**49**		**1**		**0**

prop split with midway part and TT shared days
0.50

*assume work exposures during weekdays.
*housing always off base
*deposition: drank 2.5-3 L per day including coffee in summer months
*other months drank 1.5-2 l per day
*12 cup coffee pot holds 60-72 ounces=5.5 ounces per cup; pots per

home coffee consumption per day (12 cups- wifes 2.5 cups x 3.5 pots per day x 5.5 ounces in coffee pot cups measure)= ounces x 0.0295735 liters/ounce= L **5.4083**

summer L **2.75** May -August (4 months at 2.75 and 8 months at 1.75)
other montl **1.75**

the proportion of water drank at work
0.333

Chart 1: Weekdays working on base and cumulative contaminant exposure concentrations (1 L consumption per day)

	Finished Water Concentration [µg/L]							Tarawa Terrace		Tarawa Terrace		Tarawa Terrace		Tarawa Terrace		Hadnot Point		Hadnot Point		Hadnot Point		Hadnot Point		Midway Park		Midway Park		Midway Park		Midway Park	
Exposure Period	**Camp Lejeune Potential Exposure (Days)**	**Exposure Period Start**	**Exposure Period End**	**Week Days**	**Weekend**	**Total Days**	**volume consumed minimum**	**PCE**	**Cumulative consumption (total ug= days*concentration per L)**	**TCE**	**Cumulative consumption (total ug= days*concentration per L)**	**VC**	**Cumulative consumption (total ug= days*concentration per L)**	**BZ**	**Cumulative consumption (total ug= days*concentration per L)**	**PCE**	**Cumulative consumption (total ug= days*concentration per L)**	**TCE**	**Cumulative consumption (total ug= days*concentration per L)**	**VC**	**Cumulative consumption (total ug= days*concentration per L)**	**BZ**	**Cumulative consumption (total ug= days*concentration per L)**	**PCE**	**Cumulative consumption (total ug= days*concentration per L)**	**TCE**	**Cumulative consumption (total ug= days*concentration per L)**	**VC**	**Cumulative consumption (total ug= days*concentration per L)**	**BZ**	**Cumulative consumption (total ug= days*concentration per L)**
1	1279	2/1/1968	2/29/1968	21	8	29	1.00									0	0	26	546	0	0	1	21								
		3/1/1968	3/31/1968	21	10	31	1.00									0	0	23	483	0	0	1	21								
		4/1/1968	4/30/1968	22	8	30	1.00									0	0	30	660	0	0	1	22								
		5/1/1968	5/31/1968	23	8	31	1.00									0	0	24	552	0	0	1	23								
		6/1/1968	6/30/1968	20	10	30	1.00									0	0	24	480	0	0	1	20								
		7/1/1968	7/31/1968	23	8	31	1.00									0	0	25	575	0	0	1	23								
		8/1/1968	8/31/1968	22	9	31	1.00									0	0	32	704	0	0	1	22								
		9/1/1968	9/30/1968	21	9	30	1.00									0	0	28	588	0	0	1	21								
		10/1/1968	10/31/1968	23	8	31	1.00									0	0	31	713	0	0	1	23								
		11/1/1968	11/30/1968	21	9	30	1.00									0	0	31	651	0	0	2	42								
		12/1/1968	12/31/1968	22	9	31	1.00									0	0	29	638	0	0	1	22								
		1/1/1969	1/31/1969	23	8	31	1.00									0	0	28	644	0	0	1	23								
		2/1/1969	2/28/1969	20	8	28	1.00									0	0	28	560	0	0	1	20								
		3/1/1969	3/31/1969	21	10	31	1.00									0	0	23	483	0	0	1	21								
		4/1/1969	4/30/1969	22	8	30	1.00									0	0	32	704	0	0	2	44								
		5/1/1969	5/31/1969	22	9	31	1.00									0	0	26	572	0	0	1	22								
		6/1/1969	6/30/1969	21	9	30	1.00									0	0	26	546	0	0	1	21								
		7/1/1969	7/31/1969	23	8	31	1.00									0	0	24	552	0	0	1	23								
		8/1/1969	8/31/1969	21	10	31	1.00									0	0	18	378	0	0	1	21								
		9/1/1969	9/30/1969	22	8	30	1.00									0	0	8	176	0	0	1	22								
		10/1/1969	10/31/1969	23	8	31	1.00									0	0	8	184	0	0	1	23								
		11/1/1969	11/30/1969	20	10	30	1.00									0	0	24	480	0	0	2	40								
		12/1/1969	12/31/1969	23	8	31	1.00									0	0	24	552	0	0	2	46								
		1/1/1970	1/31/1970	22	9	31	1.00									0	0	23	506	0	0	2	44								
		2/1/1970	2/28/1970	20	8	28	1.00									0	0	23	460	0	0	2	40								

3/1/1970	3/31/1970	22	9	31	1.00										0	0	19	418	0	0	1	22											
4/1/1970	4/30/1970	22	8	30	1.00										0	0	26	572	0	0	2	44											
5/1/1970	5/31/1970	21	10	31	1.00										0	0	20	420	0	0	2	42											
6/1/1970	6/30/1970	22	8	30	1.00										0	0	20	440	0	0	2	44											
7/1/1970	7/31/1970	23	8	31	1.00										0	0	20	460	0	0	2	46											
8/1/1970	8/31/1970	21	10	31	1.00										0	0	24	504	0	0	2	42											
9/1/1970	9/30/1970	22	8	30	1.00										0	0	21	462	0	0	2	44											
10/1/1970	10/31/1970	22	9	31	1.00										0	0	23	506	0	0	2	44											
11/1/1970	11/30/1970	21	9	30	1.00										0	0	25	525	0	0	3	63											
12/1/1970	12/31/1970	23	8	31	1.00										0	0	22	506	0	0	2	46											
1/1/1971	1/31/1971	21	10	31	1.00										0	0	22	462	0	0	2	42											
2/1/1971	2/28/1971	20	8	28	1.00										0	0	21	420	0	0	2	40											
3/1/1971	3/31/1971	23	8	31	1.00										0	0	17	391	0	0	2	46											
4/1/1971	4/30/1971	22	8	30	1.00										0	0	24	528	0	0	3	66											
5/1/1971	5/31/1971	21	10	31	1.00										0	0	19	399	0	0	2	42											
6/1/1971	6/30/1971	22	8	30	1.00										0	0	19	418	0	0	2	44											
7/1/1971	7/31/1971	22	9	31	1.00										0	0	19	418	0	0	2	44											
8/1/1971	8/2/1971	1	1	2	1.00										0	0	24	24	0	0	3	3											
8/2/1972	8/31/1972	9	2	11	1.00										0	0	20	180	1	9	3	27											
9/1/1972	9/30/1972	21	9	30	1.00										0	0	18	378	1	21	2	42											
10/1/1972	10/31/1972	22	9	31	1.00										0	0	18	396	0	0	3	66											
11/1/1972	11/30/1972	22	8	30	1.00										0	0	25	550	3	66	3	66											
12/1/1972	12/31/1972	21	10	31	1.00										0	0	32	672	3	63	2	42											
1/1/1973	1/31/1973	23	8	31	1.00										0	0	27	621	2	46	3	69											
2/1/1973	2/28/1973	20	8	28	1.00										0	0	34	680	3	60	2	40											
3/1/1973	3/31/1973	22	9	31	1.00										0	0	38	836	3	66	2	44											
4/1/1973	4/30/1973	21	9	30	1.00										0	0	38	798	2	42	3	63											
5/1/1973	5/31/1973	23	8	31	1.00										0	0	43	989	3	69	3	69											
6/1/1973	6/30/1973	21	9	30	1.00										0	0	57	1197	4	84	3	63											
7/1/1973	7/31/1973	22	9	31	1.00										1	22	73	1606	5	110	3	66											
8/1/1973	8/31/1973	23	8	31	1.00										1	23	109	2507	7	161	3	69											
9/1/1973	9/30/1973	20	10	30	1.00										1	20	96	1920	5	100	3	60											
10/1/1973	10/31/1973	23	8	31	1.00										0	0	31	713	1	23	3	69											
11/1/1973	11/30/1973	22	8	30	1.00										2	44	187	4114	10	220	3	66											
12/1/1973	12/31/1973	21	10	31	1.00										3	63	201	4221	10	210	2	42											
1/1/1974	1/31/1974	23	8	31	1.00										1	23	106	2438	5	115	3	69											
2/1/1974	2/28/1974	20	8	28	1.00										2	40	152	3040	7	140	2	40											
3/1/1974	3/31/1974	21	10	31	1.00										3	63	163	3423	7	147	2	42											
4/1/1974	4/30/1974	22	8	30	1.00										2	44	116	2552	5	110	3	66											
5/1/1974	5/31/1974	23	8	31	1.00										2	46	142	3266	6	138	2	46											
6/1/1974	6/30/1974	20	10	30	1.00										3	60	179	3580	8	160	2	40											
7/1/1974	7/31/1974	23	8	31	1.00										4	92	209	4807	9	207	2	46											
8/1/1974	8/31/1974	22	9	31	1.00										5	110	274	6028	12	264	3	66											
9/1/1974	9/30/1974	21	9	30	1.00										4	84	217	4557	9	189	3	63											
10/1/1974	10/31/1974	23	8	31	1.00										1	23	50	1150	2	46	3	69											
11/1/1974	11/30/1974	21	9	30	1.00										8	168	399	8379	17	357	3	63											
12/1/1974	12/31/1974	22	9	31	1.00										8	176	369	8118	15	330	3	66											
1/1/1975	1/31/1975	23	8	31	1.00										4	92	179	4117	7	161	3	69											
2/1/1975	2/28/1975	20	8	28	1.00										6	120	252	5040	11	220	3	60											
3/1/1975	3/31/1975	21	10	31	1.00										6	126	261	5481	11	231	2	42											
4/1/1975	4/30/1975	22	8	30	1.00										4	88	174	3828	7	154	3	66											
5/1/1975	5/31/1975	22	9	31	1.00										5	110	211	4642	9	198	3	66											
6/1/1975	6/30/1975	21	9	30	1.00										7	147	260	5460	11	231	2	42											
7/1/1975	7/31/1975	23	8	31	1.00										8	184	294	6762	13	299	3	69											
8/1/1975	8/25/1975	17	8	25	1.00										10	170	368	6256	16	272	3	51											
9/1/1975	9/30/1975	20	8	28	1.00										8	160	285	5700	12	240	3	60											
10/1/1975	10/31/1975	23	8	31	1.00										1	23	61	1403	2	46	3	69											
11/1/1975	11/30/1975	20	10	30	1.00										14	280	503	10060	23	460	3	60											
12/1/1975	12/31/1975	23	8	31	1.00										13	299	451	10373	20	460	3	69											
1/1/1976	1/31/1976	22	9	31	1.00										7	154	227	4994	10	220	3	66											
2/1/1976	2/29/1976	20	9	29	1.00										10	200	317	6340	14	280	3	60											
3/1/1976	3/31/1976	23	8	31	1.00										10	230	323	7429	15	345	2	46											
4/1/1976	4/30/1976	22	8	30	1.00										6	132	212	4664	9	198	4	88											
5/1/1976	5/31/1976	21	10	31	1.00										8	168	257	5397	12	252	3	63											
6/1/1976	6/30/1976	22	8	30	1.00										10	220	314	6908	15	330	3	66											
7/1/1976	7/31/1976	22	9	31	1.00										12	264	348	7656	16	352	3	66											
8/1/1976	8/31/1976	22	9	31	1.00										15	330	436	9592	20	440	4	88											
9/1/1976	9/30/1976	22	8	30	1.00										11	242	336	7392	16	352	3	66											
10/1/1976	10/31/1976	21	10	31	1.00										2	42	70	1470	3	63	3	63											
11/1/1976	11/30/1976	22	8	30	1.00										19	418	543	11946	26	572	4	88											
12/1/1976	12/31/1976	23	8	31	1.00										19	437	520	11960	25	575	3	69											
1/1/1977	1/31/1977	21	10	31	1.00										9	189	249	5229	12	252	4	84											
2/1/1977	2/28/1977	20	8	28	1.00										13	260	346	6920	17	340	3	60											
3/1/1977	3/31/1977	23	8	31	1.00										13	299	342	7866	17	391	2	46											
4/1/1977	4/30/1977	21	9	30	1.00										8	168	218	4578	11	231	4	84											
5/1/1977	5/31/1977	22	9	31	1.00										10	220	264	5808	13	286	3	66											
6/1/1977	6/30/1977	22	8	30	1.00										12	264	320	7040	17	374	3	66											
7/1/1977	7/31/1977	21	10	31	1.00										14	294	355	7455	19	399	3	63											
8/1/1977	8/31/1977	23	8	31	1.00										17	391	440	10120	23	529	4	92											
9/1/1977	9/30/1977	22	8	30	1.00										13	286	338	7436	18	396	4	88											
10/1/1977	10/31/1977	21	10	31	1.00										2	42	69	1449	3	63	4	84											
11/1/1977	11/30/1977	22	8	30	1.00										22	484	544	11968	30	660	4	88											
12/1/1977	12/31/1977	22	9	31	1.00										21	462	513	11286	28	616	4	88											
1/1/1978	1/31/1978	22	9	31	1.00										10	220	250	5500	14	308	4	88											
2/1/1978	2/28/1978	20	8	28	1.00										14	280	348	6960	19	380	3	60											
3/1/1978	3/31/1978	23	8	31	1.00										15	345	352	8096	20	460	3	69											
4/1/1978	4/30/1978	20	10	30	1.00										9	180	231	4620	13	260	5	100											
5/1/1978	5/31/1978	23	8	31	1.00										12	276	278	6394	16	368	4	92											
6/1/1978	6/30/1978	22	8	30	1.00										14	308	333	7326	19	418	3	66											
7/1/1978	7/31/1978	21	10	31	1.00										17	357	388	8148	23	483	3	63											
8/1/1978	8/31/1978	23	8	31	1.00										20	460	475	10925	28	644	4	92											
9/1/1978	9/30/1978	21	9	30	1.00										16	336	364	7644	22	462	4	84											
10/1/1978	10/31/1978	22	9	31	1.00										3	66	74	1628	4	88	4	88											
11/1/1978	11/30/1978	22	8	30	1.00										24	528	544	11968	33	726	5	110											
12/1/1978	12/31/1978	21	10	31	1.00										24	504	546	11466	33	693	4	84											
1/1/1979	1/31/1979	23	8	31	1.00										12	276	268	6164	16	368	6	138											
2/1/1979	2/28/1979	20	8	28	1.00										17	340	370	7400	23	460	5	100											
3/1/1979	3/31/1979	22	9	31	1.00										17	374	378	8316	24	528	5	110											

	4/1/1979	4/30/1979	21	9	30	1.00									11	231	230	4830	15	315	4	84										
	5/1/1979	5/31/1979	23	8	31	1.00									13	299	274	6302	18	414	3	69										
	6/1/1979	6/30/1979	21	9	30	1.00									15	315	320	6720	21	441	3	63										
	7/1/1979	7/31/1979	22	9	31	1.00									17	374	361	7942	23	506	3	66										
	8/1/1979	8/31/1979	23	8	31	1.00									22	506	483	11109	31	713	0	0										
	9/1/1979	9/30/1979	20	10	30	1.00									17	340	358	7160	23	460	3	60										
	10/1/1979	10/31/1979	23	8	31	1.00									3	69	71	1633	4	92	4	92										
	11/1/1979	11/30/1979	22	8	30	1.00									23	506	507	11154	33	726	6	132										
	12/1/1979	12/31/1979	21	10	31	1.00									23	483	504	10584	33	693	6	126										
	1/1/1980	1/31/1980	23	8	31	1.00									12	276	264	6072	17	391	7	161										
	2/1/1980	2/29/1980	21	8	29	1.00									17	357	378	7938	24	504	6	126										
	3/1/1980	3/31/1980	21	10	31	1.00									20	420	433	9093	28	588	6	126										
	4/1/1980	4/30/1980	22	8	30	1.00									12	264	273	6006	17	374	8	176										
	5/1/1980	5/30/1980	22	8	30	1.00									15	330	322	7084	21	462	6	132										
4	1094	6/1/1980	6/30/1980	21	9	30	1.00	126	1321	4	41	7	74	0	0										0	0	8	84	1	11	0	0
		7/1/1980	7/31/1980	23	8	31	1.00	1	8	0	0	0	0	0	0										0	0	0	0	0	0	0	0
		8/1/1980	8/31/1980	21	10	31	1.00	1	8	0	0	0	0	0	0										0	0	0	0	0	0	0	0
		9/1/1980	9/30/1980	22	8	30	1.00	121	1335	4	43	7	75	0	0										0	0	0	0	0	0	0	0
		10/1/1980	10/31/1980	23	8	31	1.00	122	1400	4	42	6	67	0	0										0	0	0	0	0	0	0	0
		11/1/1980	11/30/1980	20	10	30	1.00	122	1221	4	36	6	58	0	0										0	0	0	0	0	0	0	0
		12/1/1980	12/31/1980	23	8	31	1.00	123	1414	4	42	6	67	0	0										0	0	0	0	0	0	0	0
		1/1/1981	1/31/1981	22	9	31	1.00	114	1255	3	37	5	60	0	0										0	0	0	0	0	0	0	0
		2/1/1981	2/28/1981	20	8	28	1.00	114	1144	3	34	6	56	0	0										0	0	0	0	0	0	0	0
		3/1/1981	3/31/1981	22	9	31	1.00	116	1272	3	37	5	60	0	0										0	0	0	0	0	0	0	0
		4/1/1981	4/30/1981	22	8	30	1.00	117	1282	3	38	6	63	0	0										0	0	4	44	0	0	0	0
		5/1/1981	5/31/1981	21	10	31	1.00	117	1232	4	37	6	62	0	0										0	0	4	42	0	0	0	0
		6/1/1981	6/30/1981	22	8	30	1.00	118	1302	4	40	6	66	0	0										0	0	4	44	0	0	0	0
		7/1/1981	7/31/1981	23	8	31	1.00	133	1533	4	48	7	82	0	0										0	0	2	23	0	0	0	0
		8/1/1981	8/31/1981	21	10	31	1.00	134	1410	4	45	8	79	0	0										0	0	2	21	0	0	0	0
		9/1/1981	9/30/1981	22	8	30	1.00	121	1328	4	44	7	76	0	0										0	0	0	0	0	0	0	0
		10/1/1981	10/31/1981	22	9	31	1.00	121	1331	4	43	7	76	0	0										0	0	0	0	0	0	0	0
		11/1/1981	11/30/1981	21	9	30	1.00	121	1275	4	42	7	73	0	0										0	0	0	0	0	0	0	0
		12/1/1981	12/31/1981	23	8	31	1.00	122	1401	4	46	7	80	0	0										0	0	0	0	0	0	0	0
		1/1/1982	1/31/1982	21	10	31	1.00	104	1091	3	35	6	61	0	0										0	0	0	0	0	0	0	0
		2/1/1982	2/28/1982	20	8	28	1.00	106	1059	3	34	6	61	0	0										0	0	0	0	0	0	0	0
		3/1/1982	3/31/1982	23	8	31	1.00	108	1236	4	40	6	73	0	0										0	0	0	0	0	0	0	0
		4/1/1982	4/30/1982	22	8	30	1.00	109	1197	4	40	7	72	0	0										0	0	3	33	0	0	0	0
		5/1/1982	5/31/1982	21	10	31	1.00	149	1559	5	52	9	96	0	0										0	0	6	63	0	0	0	0
		6/1/1982	6/30/1982	22	8	30	1.00	111	1219	4	42	7	80	0	0										0	0	4	44	0	0	0	0
		7/1/1982	7/31/1982	22	9	31	1.00	112	1232	4	42	7	79	0	0										0	0	4	44	0	0	0	0
		8/1/1982	8/31/1982	22	9	31	1.00	113	1244	4	43	7	81	0	0										0	0	3	33	0	0	0	0
		9/1/1982	9/30/1982	22	8	30	1.00	114	1254	4	44	7	82	0	0										0	0	0	0	0	0	0	0
		10/1/1982	10/31/1982	21	10	31	1.00	115	1203	4	42	8	79	0	0										0	0	0	0	0	0	0	0
		11/1/1982	11/30/1982	22	8	30	1.00	114	1253	4	44	8	83	0	0										0	0	0	0	0	0	0	0
		12/1/1982	12/31/1982	23	8	31	1.00	115	1324	4	44	7	79	0	0										0	0	0	0	0	0	0	0
		1/1/1983	1/31/1983	21	10	31	1.00	1	13	0	0	0	1	0	0										0	0	0	0	0	0	0	0
		2/1/1983	2/28/1983	20	8	28	1.00	1	13	0	0	0	1	0	0										0	0	0	0	0	0	0	0
		3/1/1983	3/31/1983	23	8	31	1.00	112	1285	4	42	6	73	0	0										0	0	0	0	0	0	0	0
		4/1/1983	4/30/1983	21	9	30	1.00	113	1183	3	36	6	61	0	0										0	0	0	0	0	0	0	0
		5/1/1983	5/30/1983	21	9	30	1.00	114	1197	4	37	6	62	0	0										0	0	5	53	0	0	0	0
5	1203	6/1/1983	6/30/1983	22	8	30	1.00	106	2334	3	73	6	125	0	0																	
		7/1/1983	7/31/1983	21	10	31	1.00	117	2451	4	79	7	137	0	0																	
		8/1/1983	8/31/1983	23	8	31	1.00	118	2708	4	89	7	158	0	0																	
		9/1/1983	9/30/1983	22	8	30	1.00	118	2592	4	88	7	159	0	0																	
		10/1/1983	10/31/1983	21	10	31	1.00	118	2477	4	83	7	150	0	0																	
		11/1/1983	11/30/1983	22	8	30	1.00	119	2610	4	86	7	153	0	0																	
		12/1/1983	12/31/1983	22	9	31	1.00	121	2657	4	86	7	153	0	0																	
		1/1/1984	1/31/1984	22	9	31	1.00	133	2923	5	101	8	185	0	0																	
		2/1/1984	2/29/1984	21	8	29	1.00	180	3788	6	125	11	222	0	0																	
		3/1/1984	3/31/1984	22	9	31	1.00	183	4026	6	142	12	263	0	0																	
		4/1/1984	4/30/1984	21	9	30	1.00	151	3181	6	116	10	215	0	0																	
		5/1/1984	5/31/1984	23	8	31	1.00	153	3529	5	126	10	233	0	0																	
		6/1/1984	6/30/1984	21	9	30	1.00	182	3825	7	139	12	258	0	0																	
		7/1/1984	7/31/1984	22	9	31	1.00	156	3441	6	130	11	245	0	0																	
		8/1/1984	8/31/1984	23	8	31	1.00	170	3921	5	111	9	206	0	0																	
		9/1/1984	9/30/1984	20	10	30	1.00	181	3624	6	123	11	224	0	0																	
		10/1/1984	10/31/1984	23	8	31	1.00	174	3996	6	128	9	216	0	0																	
		11/1/1984	11/30/1984	22	8	30	1.00	174	3823	5	117	9	195	0	0																	
		12/1/1984	12/31/1984	21	10	31	1.00	173	3637	5	109	8	178	0	0																	
		1/1/1985	1/31/1985	23	8	31	1.00	176	4051	5	118	8	189	0	0																	
		2/1/1985	2/28/1985	20	8	28	1.00	4	73	0	1	0	4	0	0																	
		3/1/1985	3/31/1985	21	10	31	1.00	9	183	0	4	0	10	0	0																	
		4/1/1985	4/30/1985	22	8	30	1.00	8	178	0	4	0	11	0	0																	
		5/1/1985	5/31/1985	23	8	31	1.00	5	109	0	2	0	8	0	0																	
		6/1/1985	6/30/1985	20	10	30	1.00	5	103	0	2	0	8	0	0																	
		7/1/1985	7/31/1985	23	8	31	1.00	6	127	0	2	0	11	0	0																	
		8/1/1985	8/31/1985	22	9	31	1.00	6	132	0	2	1	11	0	0																	
		9/1/1985	9/30/1985	21	9	30	1.00	7	137	0	3	1	12	0	0																	
		10/1/1985	10/31/1985	23	8	31	1.00	7	162	0	3	1	15	0	0																	
		11/1/1985	11/30/1985	21	9	30	1.00	8	160	0	3	1	15	0	0																	
		12/1/1985	12/31/1985	22	9	31	1.00	8	182	0	4	1	17	0	0																	
		1/1/1986	1/31/1986	23	8	31	1.00	9	204	0	4	1	19	0	0																	
		2/1/1986	2/28/1986	20	8	28	1.00	9	188	0	4	1	17	0	0																	
		3/1/1986	3/31/1986	21	10	31	1.00	12	255	0	5	1	21	0	0																	
		4/1/1986	4/30/1986	22	8	30	1.00	11	238	0	5	1	20	0	0																	
		5/1/1986	5/31/1986	22	9	31	1.00	12	254	0	5	1	20	0	0																	
		6/1/1986	6/30/1986	21	9	30	1.00	12	258	0	5	1	19	0	0																	
		7/1/1986	7/31/1986	23	8	31	1.00	13	300	0	6	1	22	0	0																	
		8/1/1986	8/31/1986	21	10	31	1.00	14	291	0	6	1	20	0	0																	
		9/1/1986	9/12/1986	10	2	12	1.00	15	146	0	3	1	10	0	0																	
6	1260	9/28/1986	9/30/1986	2	1	3	1.00	15	29	0	1	1	2	0	0																	
		10/1/1986	10/31/1986	23	8	31	1.00	15	355	0	7	1	23	0	0																	
		11/1/1986	11/30/1986	20	10	30	1.00	16	324	0	7	1	20	0	0																	
		12/1/1986	12/31/1986	23	8	31	1.00	17	392	0	8	1	23	0	0																	
		1/1/1987	1/31/1987	22	9	31	1.00	18	393	0	8	1	22	0	0																	
		2/1/1987	2/28/1987	20	8	28	1.00	18	370	0	8	1	21	0	0																	
		3/1/1987	3/31/1987	22	9	31	1.00	0	0	0	0	0	0	0	0																	
		4/1/1987	4/30/1987	22	8	30	1.00	0	0	0	0	0	0	0	0																	

		5/1/1987	5/31/1987	21	10	31	1.00	0	0	0	0	0	0	0	0																
		6/1/1987	6/30/1987	22	8	30	1.00	0	0	0	0	0	0	0	0																
		7/1/1987	7/31/1987	23	8	31	1.00	0	0	0	0	0	0	0	0																
		8/1/1987	8/31/1987	21	10	31	1.00	0	0	0	0	0	0	0	0																
		9/1/1987	9/30/1987	22	8	30	1.00	0	0	0	0	0	0	0	0																
		10/1/1987	10/31/1987	22	9	31	1.00	0	0	0	0	0	0	0	0																
		11/1/1987	11/30/1987	21	9	30	1.00	0	0	0	0	0	0	0	0																
		12/1/1987	12/31/1987	23	8	31	1.00	0	0	0	0	0	0	0	0																
				4905	1960	6865																									
		Total µg/L-Months							112,170		3,590		6,559		-		18,716		553,183		28,366		8,291		-		528		11		-

Chart 2: Weekdays working on base and deposition informed coffee consumption (5.41 L consumption per day)

		Finished Water Concentration [µg/L]						Tarawa Terrace		Tarawa Terrace		Tarawa Terrace		Tarawa Terrace		Hadnot Point		Hadnot Point		Hadnot Point		Hadnot Point		Midway Park		Midway Park		Midway Park		Midway Park	
Exposure Period	Camp Lejeune Potential Exposure (Days)	Exposure Period Start	Exposure Period End	Week Days	Weekend	Total Days	volume consumed coffee estimate from deposition	PCE	Cumulative consumption (total ug= days*concentration per L)	TCE	Cumulative consumption (total ug= days*concentration per L)	VC	Cumulative consumption (total ug= days*concentration per L)	BZ	Cumulative consumption (total ug= days*concentration per L)	PCE	Cumulative consumption (total ug= days*concentration per L)	TCE	Cumulative consumption (total ug= days*concentration per L)	VC	Cumulative consumption (total ug= days*concentration per L)	BZ	Cumulative consumption (total ug= days*concentration per L)	PCE	Cumulative consumption (total ug= days*concentration per L)	TCE	Cumulative consumption (total ug= days*concentration per L)	VC	Cumulative consumption (total ug= days*concentration per L)	BZ	Cumulative consumption (total ug= days*concentration per L)
		2/1/1968	2/29/1968	21			5.41									0	0	26	983	0	0	1	38								
		3/1/1968	3/31/1968	21			5.41									0	0	23	870	0	0	1	38								
		4/1/1968	4/30/1968	22			5.41									0	0	30	1189	0	0	1	40								
		5/1/1968	5/31/1968	23			5.41									0	0	24	994	0	0	1	41								
		6/1/1968	6/30/1968	20			5.41									0	0	24	864	0	0	1	36								
		7/1/1968	7/31/1968	23			5.41									0	0	25	1036	0	0	1	41								
		8/1/1968	8/31/1968	22			5.41									0	0	32	1268	0	0	1	40								
		9/1/1968	9/30/1968	21			5.41									0	0	28	1059	0	0	1	38								
		10/1/1968	10/31/1968	23			5.41									0	0	31	1284	0	0	1	41								
		11/1/1968	11/30/1968	21			5.41									0	0	31	1172	0	0	2	76								
		12/1/1968	12/31/1968	22			5.41									0	0	29	1149	0	0	1	40								
		1/1/1969	1/31/1969	23			5.41									0	0	28	1160	0	0	1	41								
		2/1/1969	2/28/1969	20			5.41									0	0	28	1009	0	0	1	36								
		3/1/1969	3/31/1969	21			5.41									0	0	23	870	0	0	1	38								
		4/1/1969	4/30/1969	22			5.41									0	0	32	1268	0	0	2	79								
		5/1/1969	5/31/1969	22			5.41									0	0	26	1030	0	0	1	40								
		6/1/1969	6/30/1969	21			5.41									0	0	26	983	0	0	1	38								
		7/1/1969	7/31/1969	23			5.41									0	0	24	994	0	0	1	41								
		8/1/1969	8/31/1969	21			5.41									0	0	18	681	0	0	1	38								
		9/1/1969	9/30/1969	22			5.41									0	0	8	317	0	0	1	40								
		10/1/1969	10/31/1969	23			5.41									0	0	8	331	0	0	1	41								
		11/1/1969	11/30/1969	20			5.41									0	0	24	864	0	0	2	72								
		12/1/1969	12/31/1969	23			5.41									0	0	24	994	0	0	2	83								
		1/1/1970	1/31/1970	22			5.41									0	0	23	911	0	0	2	79								
		2/1/1970	2/28/1970	20			5.41									0	0	23	828	0	0	2	72								
		3/1/1970	3/31/1970	22			5.41									0	0	19	753	0	0	1	40								
		4/1/1970	4/30/1970	22			5.41									0	0	26	1030	0	0	2	79								
		5/1/1970	5/31/1970	21			5.41									0	0	20	756	0	0	2	76								
		6/1/1970	6/30/1970	22			5.41									0	0	20	792	0	0	2	79								
		7/1/1970	7/31/1970	23			5.41									0	0	20	828	0	0	2	83								
		8/1/1970	8/31/1970	21			5.41									0	0	24	908	0	0	2	76								
		9/1/1970	9/30/1970	22			5.41									0	0	21	832	0	0	2	79								
		10/1/1970	10/31/1970	22			5.41									0	0	23	911	0	0	2	79								
		11/1/1970	11/30/1970	21			5.41									0	0	25	945	0	0	3	113								
		12/1/1970	12/31/1970	23			5.41									0	0	22	911	0	0	2	83								
		1/1/1971	1/31/1971	21			5.41									0	0	22	832	0	0	2	76								
		2/1/1971	2/28/1971	20			5.41									0	0	21	756	0	0	2	72								
		3/1/1971	3/31/1971	23			5.41									0	0	17	704	0	0	2	83								
		4/1/1971	4/30/1971	22			5.41									0	0	24	951	0	0	3	119								
		5/1/1971	5/31/1971	21			5.41									0	0	19	719	0	0	2	76								
		6/1/1971	6/30/1971	22			5.41									0	0	19	753	0	0	2	79								
		7/1/1971	7/31/1971	22			5.41									0	0	19	753	0	0	2	79								
		8/1/1971	8/2/1971	1			5.41									0	0	24	43	0	0	3	5								
		8/21/1972	8/31/1972	9			5.41									0	0	20	324	1	16	3	49								
		9/1/1972	9/30/1972	21			5.41									0	0	18	681	1	38	2	76								
		10/1/1972	10/31/1972	22			5.41									0	0	18	713	0	0	3	119								
		11/1/1972	11/30/1972	22			5.41									0	0	25	991	3	119	3	119								
		12/1/1972	12/31/1972	21			5.41									0	0	32	1210	3	113	2	76								
		1/1/1973	1/31/1973	23			5.41									0	0	27	1118	2	83	3	124								
		2/1/1973	2/28/1973	20			5.41									0	0	34	1225	3	108	2	72								
		3/1/1973	3/31/1973	22			5.41									0	0	38	1506	3	119	2	79								
		4/1/1973	4/30/1973	21			5.41									0	0	38	1437	2	76	3	113								
		5/1/1973	5/31/1973	23			5.41									0	0	43	1781	3	124	3	124								
		6/1/1973	6/30/1973	21			5.41									0	0	57	2156	4	151	3	113								
		7/1/1973	7/31/1973	22			5.41									1	40	73	2892	5	198	3	119								
		8/1/1973	8/31/1973	23			5.41									1	41	109	4515	7	290	3	124								
		9/1/1973	9/30/1973	20			5.41									1	36	96	3458	5	180	3	108								
		10/1/1973	10/31/1973	23			5.41									0	0	31	1284	1	41	3	124								
		11/1/1973	11/30/1973	22			5.41									2	79	187	7409	10	396	3	119								
		12/1/1973	12/31/1973	21			5.41									3	113	201	7602	10	378	2	76								
		1/1/1974	1/31/1974	23			5.41									1	41	106	4391	5	207	3	124								
		2/1/1974	2/28/1974	20			5.41									2	72	152	5475	7	252	2	72								
		3/1/1974	3/31/1974	21			5.41									3	113	163	6165	7	265	2	76								
		4/1/1974	4/30/1974	22			5.41									2	79	116	4596	5	198	3	119								
		5/1/1974	5/31/1974	23			5.41									2	83	142	5882	6	249	2	83								
		6/1/1974	6/30/1974	20			5.41									3	108	179	6447	8	288	2	72								
		7/1/1974	7/31/1974	23			5.41									4	166	209	8657	9	373	2	83								
		8/1/1974	8/31/1974	22			5.41									5	198	274	10856	12	475	3	119								
		9/1/1974	9/30/1974	21			5.41									4	151	217	8207	9	340	3	113								
		10/1/1974	10/31/1974	23			5.41									1	41	50	2071	2	83	3	124								
		11/1/1974	11/30/1974	21			5.41									8	303	399	15090	17	643	3	113								
		12/1/1974	12/31/1974	22			5.41									8	317	369	14620	15	594	3	119								

		1/1/1975	1/31/1975	23			5.41										4	166	179	7415	7	290	3	124									
		2/1/1975	2/28/1975	20			5.41										6	216	252	9077	11	396	3	108									
		3/1/1975	3/31/1975	21			5.41										6	227	261	9871	11	416	2	76									
		4/1/1975	4/30/1975	22			5.41										4	158	174	6894	7	277	3	119									
		5/1/1975	5/31/1975	22			5.41										5	198	211	8360	9	357	3	119									
		6/1/1975	6/30/1975	21			5.41										7	265	260	9833	11	416	2	76									
		7/1/1975	7/31/1975	23			5.41										8	331	294	12178	13	538	3	124									
		8/1/1975	8/25/1975	17			5.41										10	306	368	11267	16	490	3	92									
		9/1/1975	9/30/1975	20			5.41										8	288	285	10265	12	432	3	108									
		10/1/1975	10/31/1975	23			5.41										1	41	61	2527	2	83	3	124									
		11/1/1975	11/30/1975	20			5.41										14	504	503	18118	23	828	3	108									
		12/1/1975	12/31/1975	23			5.41										13	538	451	18681	20	828	3	124									
		1/1/1976	1/31/1976	22			5.41										7	277	227	8994	10	396	3	119									
		2/1/1976	2/29/1976	20			5.41										10	360	317	11418	14	504	3	108									
		3/1/1976	3/31/1976	23			5.41										10	414	323	13379	15	621	2	83									
		4/1/1976	4/30/1976	22			5.41										6	238	212	8400	9	357	4	158									
		5/1/1976	5/31/1976	21			5.41										8	303	257	9720	12	454	3	113									
		6/1/1976	6/30/1976	22			5.41										10	396	314	12441	15	594	3	119									
		7/1/1976	7/31/1976	22			5.41										12	475	348	13788	16	634	3	119									
		8/1/1976	8/31/1976	22			5.41										15	594	436	17275	20	792	4	158									
		9/1/1976	9/30/1976	22			5.41										11	436	336	13313	16	634	3	119									
		10/1/1976	10/31/1976	21			5.41										2	76	70	2647	3	113	3	113									
		11/1/1976	11/30/1976	22			5.41										19	753	543	21514	26	1030	4	158									
		12/1/1976	12/31/1976	23			5.41										19	787	520	21539	25	1036	3	124									
		1/1/1977	1/31/1977	21			5.41										9	340	249	9417	12	454	4	151									
		2/1/1977	2/28/1977	20			5.41										13	468	346	12463	17	612	3	108									
		3/1/1977	3/31/1977	23			5.41										13	538	342	14166	17	704	2	83									
		4/1/1977	4/30/1977	21			5.41										8	303	218	8245	11	416	4	151									
		5/1/1977	5/31/1977	22			5.41										10	396	264	10460	13	515	3	119									
		6/1/1977	6/30/1977	22			5.41										12	475	320	12679	17	674	3	119									
		7/1/1977	7/31/1977	21			5.41										14	529	355	13426	19	719	3	113									
		8/1/1977	8/31/1977	23			5.41										17	704	440	18226	23	953	4	166									
		9/1/1977	9/30/1977	22			5.41										13	515	338	13392	18	713	4	158									
		10/1/1977	10/31/1977	21			5.41										2	76	69	2610	3	113	4	151									
		11/1/1977	11/30/1977	22			5.41										22	872	544	21554	30	1189	4	158									
		12/1/1977	12/31/1977	22			5.41										21	832	513	20326	28	1109	4	158									
		1/1/1978	1/31/1978	22			5.41										10	396	250	9905	14	555	4	158									
		2/1/1978	2/28/1978	20			5.41										14	504	348	12535	19	684	3	108									
		3/1/1978	3/31/1978	23			5.41										15	621	352	14580	20	828	3	124									
		4/1/1978	4/30/1978	20			5.41										9	324	231	8320	13	468	5	180									
		5/1/1978	5/31/1978	23			5.41										12	497	278	11515	16	663	4	166									
		6/1/1978	6/30/1978	22			5.41										14	555	333	13194	19	753	3	119									
		7/1/1978	7/31/1978	21			5.41										17	643	388	14674	23	870	3	113									
		8/1/1978	8/31/1978	23			5.41										20	828	475	19675	28	1160	4	166									
		9/1/1978	9/30/1978	21			5.41										16	605	364	13766	22	832	4	151									
		10/1/1978	10/31/1978	22			5.41										3	119	74	2932	4	158	4	158									
		11/1/1978	11/30/1978	22			5.41										24	951	544	21554	33	1307	5	198									
		12/1/1978	12/31/1978	21			5.41										24	908	546	20650	33	1248	4	151									
		1/1/1979	1/31/1979	23			5.41										12	497	268	11101	16	663	6	249									
		2/1/1979	2/28/1979	20			5.41										17	612	370	13327	23	828	5	180									
		3/1/1979	3/31/1979	22			5.41										17	674	378	14977	24	951	5	198									
		4/1/1979	4/30/1979	21			5.41										11	416	230	8699	15	567	4	151									
		5/1/1979	5/31/1979	23			5.41										13	538	274	11350	18	746	3	124									
		6/1/1979	6/30/1979	21			5.41										15	567	320	12102	21	794	3	113									
		7/1/1979	7/31/1979	22			5.41										17	674	361	14303	23	911	3	119									
		8/1/1979	8/31/1979	23			5.41										22	911	483	20007	31	1284	0	0									
		9/1/1979	9/30/1979	20			5.41										17	612	358	12895	23	828	3	108									
		10/1/1979	10/31/1979	23			5.41										3	124	71	2941	4	166	4	166									
		11/1/1979	11/30/1979	22			5.41										23	911	507	20088	33	1307	6	238									
		12/1/1979	12/31/1979	21			5.41										23	870	504	19061	33	1248	6	227									
		1/1/1980	1/31/1980	23			5.41										12	497	264	10935	17	704	7	290									
		2/1/1980	2/29/1980	21			5.41										17	643	378	14296	24	908	6	227									
		3/1/1980	3/31/1980	21			5.41										20	756	433	16376	28	1059	6	227									
		4/1/1980	4/30/1980	22			5.41										12	475	273	10816	17	674	8	317									
		5/1/1980	5/30/1980	22			5.41										15	594	322	12758	21	832	6	238									
		6/1/1980	6/30/1980	21			5.41	126	2379	4	74	7	133	0	0										0	0	8	151	1	19	0	0
		7/1/1980	7/31/1980	23			5.41	1	15	0	0	0	0	0	0										0	0	0	0	0	0	0	0
		8/1/1980	8/31/1980	21			5.41	1	14	0	0	0	0	0	0										0	0	0	0	0	0	0	0
		9/1/1980	9/30/1980	22			5.41	121	2404	4	78	7	135	0	0										0	0	0	0	0	0	0	0
		10/1/1980	10/31/1980	23			5.41	122	2521	4	75	6	121	0	0										0	0	0	0	0	0	0	0
		11/1/1980	11/30/1980	20			5.41	122	2200	4	65	6	105	0	0										0	0	0	0	0	0	0	0
		12/1/1980	12/31/1980	23			5.41	123	2546	4	75	6	120	0	0										0	0	0	0	0	0	0	0
		1/1/1981	1/31/1981	22			5.41	114	2259	3	67	5	108	0	0										0	0	0	0	0	0	0	0
		2/1/1981	2/28/1981	20			5.41	114	2060	3	61	6	100	0	0										0	0	0	0	0	0	0	0
		3/1/1981	3/31/1981	22			5.41	116	2290	3	67	5	108	0	0										0	0	0	0	0	0	0	0
		4/1/1981	4/30/1981	22			5.41	117	2309	3	69	6	113	0	0										0	0	4	79	0	0	0	0
		5/1/1981	5/31/1981	21			5.41	117	2218	4	67	6	111	0	0										0	0	4	76	0	0	0	0
		6/1/1981	6/30/1981	22			5.41	118	2345	4	71	6	119	0	0										0	0	4	79	0	0	0	0
		7/1/1981	7/31/1981	23			5.41	133	2761	4	86	7	147	0	0										0	0	2	41	0	0	0	0
		8/1/1981	8/31/1981	21			5.41	134	2540	4	82	8	142	0	0										0	0	2	38	0	0	0	0
		9/1/1981	9/30/1981	22			5.41	121	2392	4	78	7	137	0	0										0	0	0	0	0	0	0	0
		10/1/1981	10/31/1981	22			5.41	121	2398	4	78	7	137	0	0										0	0	0	0	0	0	0	0
		11/1/1981	11/30/1981	21			5.41	121	2296	4	75	7	131	0	0										0	0	0	0	0	0	0	0
		12/1/1981	12/31/1981	23			5.41	122	2523	4	82	7	144	0	0										0	0	0	0	0	0	0	0
		1/1/1982	1/31/1982	21			5.41	104	1966	3	63	6	110	0	0										0	0	0	0	0	0	0	0
		2/1/1982	2/28/1982	20			5.41	106	1906	3	62	6	110	0	0										0	0	0	0	0	0	0	0
		3/1/1982	3/31/1982	23			5.41	108	2227	4	73	6	131	0	0										0	0	0	0	0	0	0	0
		4/1/1982	4/30/1982	22			5.41	109	2156	4	71	7	130	0	0										0	0	3	59	0	0	0	0
		5/1/1982	5/31/1982	21			5.41	149	2808	5	94	9	173	0	0										0	0	6	113	0	0	0	0
		6/1/1982	6/30/1982	22			5.41	111	2195	4	76	7	144	0	0										0	0	4	79	0	0	0	0
		7/1/1982	7/31/1982	22			5.41	112	2218	4	76	7	143	0	0										0	0	4	79	0	0	0	0
		8/1/1982	8/31/1982	22			5.41	113	2240	4	77	7	145	0	0										0	0	3	59	0	0	0	0
		9/1/1982	9/30/1982	22			5.41	114	2259	4	78	7	148	0	0										0	0	0	0	0	0	0	0
		10/1/1982	10/31/1982	21			5.41	115	2167	4	76	8	143	0	0										0	0	0	0	0	0	0	0
		11/1/1982	11/30/1982	22			5.41	114	2256	4	79	8	149	0	0										0	0	0	0	0	0	0	0
		12/1/1982	12/31/1982	23			5.41	115	2385	4	79	7	142	0	0										0	0	0	0	0	0	0	0
		1/1/1983	1/31/1983	21			5.41	1	24	0	0	0	1	0	0										0	0	0	0	0	0	0	0
		2/1/1983	2/28/1983	20			5.41	1	23	0	0	0	1	0	0										0	0	0	0	0	0	0	0

		3/1/1983	3/31/1983	23			5.41	112	2315	4	76	6	132	0	0									0	0	0	0	0	0	0	0
		4/1/1983	4/30/1983	21			5.41	113	2130	3	65	6	109	0	0									0	0	0	0	0	0	0	0
		5/1/1983	5/30/1983	21			5.41	114	2155	4	67	6	111	0	0									0	0	5	95	0	0	0	0
		6/1/1983	6/30/1983	22			5.41	106	2102	3	66	6	113	0	0																
		7/1/1983	7/31/1983	21			5.41	117	2207	4	71	7	123	0	0																
		8/1/1983	8/31/1983	23			5.41	118	2438	4	80	7	142	0	0																
		9/1/1983	9/30/1983	22			5.41	118	2334	4	79	7	143	0	0																
		10/1/1983	10/31/1983	21			5.41	118	2231	4	75	7	135	0	0																
		11/1/1983	11/30/1983	22			5.41	119	2350	4	77	7	138	0	0																
		12/1/1983	12/31/1983	22			5.41	121	2393	4	77	7	138	0	0																
		1/1/1984	1/31/1984	22			5.41	133	2632	5	91	8	167	0	0																
		2/1/1984	2/29/1984	21			5.41	180	3411	6	112	11	200	0	0																
		3/1/1984	3/31/1984	22			5.41	183	3626	6	128	12	237	0	0																
		4/1/1984	4/30/1984	21			5.41	151	2864	6	104	10	194	0	0																
		5/1/1984	5/31/1984	23			5.41	153	3177	5	114	10	210	0	0																
		6/1/1984	6/30/1984	21			5.41	182	3444	7	125	12	232	0	0																
		7/1/1984	7/31/1984	22			5.41	156	3098	6	117	11	221	0	0																
		8/1/1984	8/31/1984	23			5.41	170	3531	5	100	9	185	0	0																
		9/1/1984	9/30/1984	20			5.41	181	3264	6	111	11	202	0	0																
		10/1/1984	10/31/1984	23			5.41	174	3598	6	115	9	194	0	0																
		11/1/1984	11/30/1984	22			5.41	174	3442	5	106	9	176	0	0																
		12/1/1984	12/31/1984	21			5.41	173	3275	5	98	8	160	0	0																
		1/1/1985	1/31/1985	23			5.41	176	3648	5	106	8	170	0	0																
		2/1/1985	2/28/1985	20			5.41	4	66	0	1	0	4	0	0																
		3/1/1985	3/31/1985	21			5.41	9	165	0	3	0	9	0	0																
		4/1/1985	4/30/1985	22			5.41	8	160	0	3	0	10	0	0																
		5/1/1985	5/31/1985	23			5.41	5	99	0	1	0	7	0	0																
		6/1/1985	6/30/1985	20			5.41	5	93	0	1	0	7	0	0																
		7/1/1985	7/31/1985	23			5.41	6	115	0	2	0	10	0	0																
		8/1/1985	8/31/1985	22			5.41	6	119	0	2	1	10	0	0																
		9/1/1985	9/30/1985	21			5.41	7	123	0	2	1	11	0	0																
		10/1/1985	10/31/1985	23			5.41	7	146	0	3	1	13	0	0																
		11/1/1985	11/30/1985	21			5.41	8	144	0	3	1	13	0	0																
		12/1/1985	12/31/1985	22			5.41	8	164	0	3	1	15	0	0																
		1/1/1986	1/31/1986	23			5.41	9	183	0	4	1	17	0	0																
		2/1/1986	2/28/1986	20			5.41	9	170	0	3	1	15	0	0																
		3/1/1986	3/31/1986	21			5.41	12	230	0	5	1	19	0	0																
		4/1/1986	4/30/1986	22			5.41	11	215	0	4	1	18	0	0																
		5/1/1986	5/31/1986	22			5.41	12	229	0	5	1	18	0	0																
		6/1/1986	6/30/1986	21			5.41	12	232	0	5	1	17	0	0																
		7/1/1986	7/31/1986	23			5.41	13	270	0	5	1	19	0	0																
		8/1/1986	8/31/1986	21			5.41	14	262	0	5	1	18	0	0																
		9/1/1986	9/12/1986	10			5.41	15	132	0	3	1	9	0	0																
		9/28/1986	9/30/1986	2			5.41	15	26	0	1	1	2	0	0																
		10/1/1986	10/31/1986	23			5.41	15	319	0	6	1	21	0	0																
		11/1/1986	11/30/1986	20			5.41	16	292	0	6	1	18	0	0																
		12/1/1986	12/31/1986	23			5.41	17	353	0	7	1	21	0	0																
		1/1/1987	1/31/1987	22			5.41	18	354	0	7	1	20	0	0																
		2/1/1987	2/28/1987	20			5.41	18	333	0	7	1	19	0	0																
		3/1/1987	3/31/1987	22			5.41	0	0	0	0	0	0	0	0																
		4/1/1987	4/30/1987	22			5.41	0	0	0	0	0	0	0	0																
		5/1/1987	5/31/1987	21			5.41	0	0	0	0	0	0	0	0																
		6/1/1987	6/30/1987	22			5.41	0	0	0	0	0	0	0	0																
		7/1/1987	7/31/1987	23			5.41	0	0	0	0	0	0	0	0																
		8/1/1987	8/31/1987	21			5.41	0	0	0	0	0	0	0	0																
		9/1/1987	9/30/1987	22			5.41	0	0	0	0	0	0	0	0																
		10/1/1987	10/31/1987	22			5.41	0	0	0	0	0	0	0	0																
		11/1/1987	11/30/1987	21			5.41	0	0	0	0	0	0	0	0																
		12/1/1987	12/31/1987	23			5.41	0	0	0	0	0	0	0	0																
		Total µg/L-Months							137,956		4,414		7,972		-		33,707		996,254		51,086		14,932		-		950		19		-

Chart 3: Weekdays working on base and deposition informed summer/other months L consumption per day)

		Finished Water Concentration [µg/L]						Tarawa Terrace		Tarawa Terrace		Tarawa Terrace		Tarawa Terrace		Hadnot Point		Hadnot Point		Hadnot Point		Hadnot Point		Midway Park		Midway Park		Midway Park		Midway Park	
Exposure Period	Camp Lejeune Potential Exposure (Days)	Exposure Period Start	Exposure Period End	Week Days	Weekend	Total Days	Volume Consumed (summer vs winter)	PCE	Cumulative consumption (total ug= days*concentration per L)	TCE	Cumulative consumption (total ug= days*concentration per L)	VC	Cumulative consumption (total ug= days*concentration per L)	BZ	Cumulative consumption (total ug= days*concentration per L)	PCE	Cumulative consumption (total ug= days*concentration per L)	TCE	Cumulative consumption (total ug= days*concentration per L)	VC	Cumulative consumption (total ug= days*concentration per L)	BZ	Cumulative consumption (total ug= days*concentration per L)	PCE	Cumulative consumption (total ug= days*concentration per L)	TCE	Cumulative consumption (total ug= days*concentration per L)	VC	Cumulative consumption (total ug= days*concentration per L)	BZ	Cumulative consumption (total ug= days*concentration per L)
		2/1/1968	2/29/1968	21			1.75									0	0	26	318	0	0	1	12								
		3/1/1968	3/31/1968	21			1.75									0	0	23	281	0	0	1	12								
		4/1/1968	4/30/1968	22			2.75									0	0	30	604	0	0	1	20								
		5/1/1968	5/31/1968	23			2.75									0	0	24	505	0	0	1	21								
		6/1/1968	6/30/1968	20			2.75									0	0	24	440	0	0	1	18								
		7/1/1968	7/31/1968	23			2.75									0	0	25	527	0	0	1	21								
		8/1/1968	8/31/1968	22			2.75									0	0	32	645	0	0	1	20								
		9/1/1968	9/30/1968	21			1.75									0	0	28	343	0	0	1	12								
		10/1/1968	10/31/1968	23			1.75									0	0	31	416	0	0	1	13								
		11/1/1968	11/30/1968	21			1.75									0	0	31	379	0	0	2	24								
		12/1/1968	12/31/1968	22			1.75									0	0	29	372	0	0	1	13								
		1/1/1969	1/31/1969	23			1.75									0	0	28	375	0	0	1	13								
		2/1/1969	2/28/1969	20			1.75									0	0	28	326	0	0	1	12								
		3/1/1969	3/31/1969	21			1.75									0	0	23	281	0	0	1	12								
		4/1/1969	4/30/1969	22			1.75									0	0	32	410	0	0	2	26								
		5/1/1969	5/31/1969	22			2.75									0	0	26	524	0	0	1	20								
		6/1/1969	6/30/1969	21			2.75									0	0	26	500	0	0	1	19								
		7/1/1969	7/31/1969	23			2.75									0	0	24	505	0	0	1	21								
		8/1/1969	8/31/1969	21			2.75									0	0	18	346	0	0	1	19								
		9/1/1969	9/30/1969	22			1.75									0	0	8	103	0	0	1	13								
		10/1/1969	10/31/1969	23			1.75									0	0	8	107	0	0	1	13								
		11/1/1969	11/30/1969	20			1.75									0	0	24	280	0	0	2	23								
		12/1/1969	12/31/1969	23			1.75									0	0	24	322	0	0	2	27								
		1/1/1970	1/31/1970	22			1.75									0	0	23	295	0	0	2	26								

2/1/1970	2/28/1970	20	1.75	0	0	23	268	0	0	2	23
3/1/1970	3/31/1970	22	1.75	0	0	19	244	0	0	1	13
4/1/1970	4/30/1970	22	1.75	0	0	26	333	0	0	2	26
5/1/1970	5/31/1970	21	2.75	0	0	20	385	0	0	2	38
6/1/1970	6/30/1970	22	2.75	0	0	20	403	0	0	2	40
7/1/1970	7/31/1970	23	2.75	0	0	20	421	0	0	2	42
8/1/1970	8/31/1970	21	2.75	0	0	24	462	0	0	2	38
9/1/1970	9/30/1970	22	1.75	0	0	21	269	0	0	2	26
10/1/1970	10/31/1970	22	1.75	0	0	23	295	0	0	2	26
11/1/1970	11/30/1970	21	1.75	0	0	25	306	0	0	3	37
12/1/1970	12/31/1970	23	1.75	0	0	22	295	0	0	2	27
1/1/1971	1/31/1971	21	1.75	0	0	22	269	0	0	2	24
2/1/1971	2/28/1971	20	1.75	0	0	21	245	0	0	2	23
3/1/1971	3/31/1971	23	1.75	0	0	17	228	0	0	2	27
4/1/1971	4/30/1971	22	1.75	0	0	24	308	0	0	3	38
5/1/1971	5/31/1971	21	2.75	0	0	19	365	0	0	2	38
6/1/1971	6/30/1971	22	2.75	0	0	19	383	0	0	2	40
7/1/1971	7/31/1971	22	2.75	0	0	19	383	0	0	2	40
8/1/1971	8/2/1971	1	2.75	0	0	24	22	0	0	3	3
8/21/1972	8/31/1972	9	2.75	0	0	20	165	1	8	3	25
9/1/1972	9/30/1972	21	1.75	0	0	18	220	1	12	2	24
10/1/1972	10/31/1972	22	1.75	0	0	18	231	0	0	3	38
11/1/1972	11/30/1972	22	1.75	0	0	25	321	3	38	3	38
12/1/1972	12/31/1972	21	1.75	0	0	32	392	3	37	2	24
1/1/1973	1/31/1973	23	1.75	0	0	27	362	2	27	3	40
2/1/1973	2/28/1973	20	1.75	0	0	34	396	3	35	2	23
3/1/1973	3/31/1973	22	1.75	0	0	38	487	3	38	2	26
4/1/1973	4/30/1973	21	1.75	0	0	38	465	2	24	3	37
5/1/1973	5/31/1973	23	2.75	0	0	43	906	3	63	3	63
6/1/1973	6/30/1973	21	2.75	0	0	57	1096	4	77	3	58
7/1/1973	7/31/1973	22	2.75	1	20	73	1471	5	101	3	60
8/1/1973	8/31/1973	23	2.75	1	21	109	2296	7	147	3	63
9/1/1973	9/30/1973	20	1.75	1	12	96	1119	5	58	3	35
10/1/1973	10/31/1973	23	1.75	0	0	31	416	1	13	3	40
11/1/1973	11/30/1973	22	1.75	2	26	187	2397	10	128	3	38
12/1/1973	12/31/1973	21	1.75	3	37	201	2460	10	122	2	24
1/1/1974	1/31/1974	23	1.75	1	13	106	1421	5	67	3	40
2/1/1974	2/28/1974	20	1.75	2	23	152	1772	7	82	2	23
3/1/1974	3/31/1974	21	1.75	3	37	163	1995	7	86	2	24
4/1/1974	4/30/1974	22	1.75	2	26	116	1487	5	64	3	38
5/1/1974	5/31/1974	23	2.75	2	42	142	2991	6	126	2	42
6/1/1974	6/30/1974	20	2.75	3	55	179	3278	8	147	2	37
7/1/1974	7/31/1974	23	2.75	4	84	209	4402	9	190	2	42
8/1/1974	8/31/1974	22	2.75	5	101	274	5520	12	242	3	60
9/1/1974	9/30/1974	21	1.75	4	49	217	2656	9	110	3	37
10/1/1974	10/31/1974	23	1.75	1	13	50	670	2	27	3	40
11/1/1974	11/30/1974	21	1.75	8	98	399	4883	17	208	3	37
12/1/1974	12/31/1974	22	1.75	8	103	369	4731	15	192	3	38
1/1/1975	1/31/1975	23	1.75	4	54	179	2399	7	94	3	40
2/1/1975	2/28/1975	20	1.75	6	70	252	2937	11	128	3	35
3/1/1975	3/31/1975	21	1.75	6	73	261	3194	11	135	2	24
4/1/1975	4/30/1975	22	1.75	4	51	174	2231	7	90	3	38
5/1/1975	5/31/1975	22	2.75	5	101	211	4251	9	181	3	60
6/1/1975	6/30/1975	21	2.75	7	135	260	5000	11	212	2	38
7/1/1975	7/31/1975	23	2.75	8	168	294	6192	13	274	3	63
8/1/1975	8/25/1975	17	2.75	10	156	368	5729	16	249	3	47
9/3/1975	9/30/1975	20	1.75	8	93	285	3322	12	140	3	35
10/1/1975	10/31/1975	23	1.75	1	13	61	818	2	27	3	40
11/1/1975	11/30/1975	20	1.75	14	163	503	5862	23	268	3	35
12/1/1975	12/31/1975	23	1.75	13	174	451	6045	20	268	3	40
1/1/1976	1/31/1976	22	1.75	7	90	227	2910	10	128	3	38
2/1/1976	2/29/1976	20	1.75	10	117	317	3695	14	163	3	35
3/1/1976	3/31/1976	23	1.75	10	134	323	4329	15	201	2	27
4/1/1976	4/30/1976	22	1.75	6	77	212	2718	9	115	4	51
5/1/1976	5/31/1976	21	2.75	8	154	257	4942	12	231	3	58
6/1/1976	6/30/1976	22	2.75	10	201	314	6326	15	302	3	60
7/1/1976	7/31/1976	22	2.75	12	242	348	7011	16	322	3	60
8/1/1976	8/31/1976	22	2.75	15	302	436	8784	20	403	4	81
9/1/1976	9/30/1976	22	1.75	11	141	336	4308	16	205	3	38
10/1/1976	10/31/1976	21	1.75	2	24	70	857	3	37	3	37
11/1/1976	11/30/1976	22	1.75	19	244	543	6962	26	333	4	51
12/1/1976	12/31/1976	23	1.75	19	255	520	6970	25	335	3	40
1/1/1977	1/31/1977	21	1.75	9	110	249	3047	12	147	4	49
2/1/1977	2/28/1977	20	1.75	13	152	346	4033	17	198	3	35
3/1/1977	3/31/1977	23	1.75	13	174	342	4584	17	228	2	27
4/1/1977	4/30/1977	21	1.75	8	98	218	2668	11	135	4	49
5/1/1977	5/31/1977	22	2.75	10	201	264	5319	13	262	3	60
6/1/1977	6/30/1977	22	2.75	12	242	320	6447	17	342	3	60
7/1/1977	7/31/1977	21	2.75	14	269	355	6827	19	365	3	58
8/1/1977	8/31/1977	23	2.75	17	358	440	9267	23	484	4	84
9/1/1977	9/30/1977	22	1.75	13	167	338	4333	18	231	4	51
10/1/1977	10/31/1977	21	1.75	2	24	69	844	3	37	4	49
11/1/1977	11/30/1977	22	1.75	22	282	544	6974	30	385	4	51
12/1/1977	12/31/1977	22	1.75	21	269	513	6577	28	359	4	51
1/1/1978	1/31/1978	22	1.75	10	128	250	3205	14	179	4	51
2/1/1978	2/28/1978	20	1.75	14	163	348	4056	19	221	3	35
3/1/1978	3/31/1978	23	1.75	15	201	352	4718	20	268	3	40
4/1/1978	4/30/1978	20	1.75	9	105	231	2692	13	152	5	58
5/1/1978	5/31/1978	23	2.75	12	253	278	5855	16	337	4	84
6/1/1978	6/30/1978	22	2.75	14	282	333	6709	19	383	3	60
7/1/1978	7/31/1978	21	2.75	17	327	388	7462	23	442	3	58
8/1/1978	8/31/1978	23	2.75	20	421	475	10005	28	590	4	84
9/1/1978	9/30/1978	21	1.75	16	196	364	4455	22	269	4	49
10/1/1978	10/31/1978	22	1.75	3	38	74	949	4	51	4	51
11/1/1978	11/30/1978	22	1.75	24	308	544	6974	33	423	5	64
12/1/1978	12/31/1978	21	1.75	24	294	546	6682	33	404	4	49
1/1/1979	1/31/1979	23	1.75	12	161	268	3592	16	214	6	80

	2/1/1979	2/28/1979	20			1.75									17	198	370	4312	23	268	5	58									
	3/1/1979	3/31/1979	22			1.75									17	218	378	4846	24	308	5	64									
	4/1/1979	4/30/1979	21			1.75									11	135	230	2815	15	184	4	49									
	5/1/1979	5/31/1979	23			2.75									13	274	274	5771	18	379	3	63									
	6/1/1979	6/30/1979	21			2.75									15	288	320	6154	21	404	3	58									
	7/1/1979	7/31/1979	22			2.75									17	342	361	7273	23	463	3	60									
	8/1/1979	8/31/1979	23			2.75									22	463	483	10173	31	653	0	0									
	9/1/1979	9/30/1979	20			1.75									17	198	358	4172	23	268	3	35									
	10/1/1979	10/31/1979	23			1.75									3	40	71	952	4	54	4	54									
	11/1/1979	11/30/1979	22			1.75									23	295	507	6500	33	423	6	77									
	12/1/1979	12/31/1979	21			1.75									23	281	504	6168	33	404	6	73									
	1/1/1980	1/31/1980	23			1.75									12	161	264	3538	17	228	7	94									
	2/1/1980	2/29/1980	21			1.75									17	208	378	4626	24	294	6	73									
	3/1/1980	3/31/1980	21			1.75									20	245	433	5299	28	343	6	73									
	4/1/1980	4/30/1980	22			2.75									12	242	273	5500	17	342	8	161									
	5/1/1980	5/30/1980	22			2.75									15	302	322	6487	21	423	6	121									
	6/1/1980	6/30/1980	21			2.75	126	1210	4	38	7	68	0	0									0	0	8	77	1	10	0	0
	7/1/1980	7/31/1980	23			2.75	1	8	0	0	0	0	0	0									0	0	0	0	0	0	0	0
	8/1/1980	8/31/1980	21			2.75	1	7	0	0	0	0	0	0									0	0	0	0	0	0	0	0
	9/1/1980	9/30/1980	22			1.75	121	778	4	25	7	44	0	0									0	0	0	0	0	0	0	0
	10/1/1980	10/31/1980	23			1.75	122	816	4	24	6	39	0	0									0	0	0	0	0	0	0	0
	11/1/1980	11/30/1980	20			1.75	122	712	4	21	6	34	0	0									0	0	0	0	0	0	0	0
	12/1/1980	12/31/1980	23			1.75	123	824	4	24	6	39	0	0									0	0	0	0	0	0	0	0
	1/1/1981	1/31/1981	22			1.75	114	731	3	22	5	35	0	0									0	0	0	0	0	0	0	0
	2/1/1981	2/28/1981	20			1.75	114	667	3	20	6	32	0	0									0	0	0	0	0	0	0	0
	3/1/1981	3/31/1981	22			1.75	116	741	3	22	5	35	0	0									0	0	0	0	0	0	0	0
	4/1/1981	4/30/1981	22			1.75	117	747	3	22	6	36	0	0									0	0	4	26	0	0	0	0
	5/1/1981	5/31/1981	21			2.75	117	1128	4	34	6	56	0	0									0	0	4	38	0	0	0	0
	6/1/1981	6/30/1981	22			2.75	118	1192	4	36	6	61	0	0									0	0	4	40	0	0	0	0
	7/1/1981	7/31/1981	23			2.75	133	1404	4	44	7	75	0	0									0	0	2	21	0	0	0	0
	8/1/1981	8/31/1981	21			2.75	134	1291	4	42	8	72	0	0									0	0	2	19	0	0	0	0
	9/1/1981	9/30/1981	22			1.75	121	774	4	25	7	44	0	0									0	0	0	0	0	0	0	0
	10/1/1981	10/31/1981	22			1.75	121	776	4	25	7	44	0	0									0	0	0	0	0	0	0	0
	11/1/1981	11/30/1981	21			1.75	121	743	4	24	7	42	0	0									0	0	0	0	0	0	0	0
	12/1/1981	12/31/1981	23			1.75	122	816	4	27	7	47	0	0									0	0	0	0	0	0	0	0
	1/1/1982	1/31/1982	21			1.75	104	636	3	20	6	36	0	0									0	0	0	0	0	0	0	0
	2/1/1982	2/28/1982	20			1.75	106	617	3	20	6	35	0	0									0	0	0	0	0	0	0	0
	3/1/1982	3/31/1982	23			1.75	108	721	4	24	6	42	0	0									0	0	0	0	0	0	0	0
	4/1/1982	4/30/1982	22			1.75	109	698	4	23	7	42	0	0									0	0	3	19	0	0	0	0
	5/1/1982	5/31/1982	21			2.75	149	1428	5	48	9	88	0	0									0	0	6	58	0	0	0	0
	6/1/1982	6/30/1982	22			2.75	111	1116	4	39	7	73	0	0									0	0	4	40	0	0	0	0
	7/1/1982	7/31/1982	22			2.75	112	1128	4	39	7	73	0	0									0	0	4	40	0	0	0	0
	8/1/1982	8/31/1982	22			2.75	113	1139	4	39	7	74	0	0									0	0	3	30	0	0	0	0
	9/1/1982	9/30/1982	22			1.75	114	731	4	25	7	48	0	0									0	0	0	0	0	0	0	0
	10/1/1982	10/31/1982	21			1.75	115	701	4	25	8	46	0	0									0	0	0	0	0	0	0	0
	11/1/1982	11/30/1982	22			1.75	114	730	4	26	8	48	0	0									0	0	0	0	0	0	0	0
	12/1/1982	12/31/1982	23			1.75	115	772	4	25	7	46	0	0									0	0	0	0	0	0	0	0
	1/1/1983	1/31/1983	21			1.75	1	8	0	0	0	0	0	0									0	0	0	0	0	0	0	0
	2/1/1983	2/28/1983	20			1.75	1	8	0	0	0	0	0	0									0	0	0	0	0	0	0	0
	3/1/1983	3/31/1983	23			1.75	112	749	4	24	6	43	0	0									0	0	0	0	0	0	0	0
	4/1/1983	4/30/1983	21			1.75	113	689	3	21	6	35	0	0									0	0	0	0	0	0	0	0
	5/1/1983	5/30/1983	21			2.75	114	1096	4	34	6	57	0	0									0	0	5	48	0	0	0	0
	6/1/1983	6/30/1983	22			2.75	106	1069	3	34	6	57	0	0																
	7/1/1983	7/31/1983	21			2.75	117	1122	4	36	7	63	0	0																
	8/1/1983	8/31/1983	23			2.75	118	1240	4	41	7	72	0	0																
	9/1/1983	9/30/1983	22			1.75	118	755	4	26	7	46	0	0																
	10/1/1983	10/31/1983	21			1.75	118	722	4	24	7	44	0	0																
	11/1/1983	11/30/1983	22			1.75	119	760	4	25	7	45	0	0																
	12/1/1983	12/31/1983	22			1.75	121	774	4	25	7	45	0	0																
	1/1/1984	1/31/1984	22			1.75	133	852	5	30	8	54	0	0																
	2/1/1984	2/29/1984	21			1.75	180	1104	6	36	11	65	0	0																
	3/1/1984	3/31/1984	22			1.75	183	1173	6	41	12	77	0	0																
	4/1/1984	4/30/1984	21			1.75	151	927	6	34	10	63	0	0																
	5/1/1984	5/31/1984	23			2.75	153	1616	5	58	10	107	0	0																
	6/1/1984	6/30/1984	21			2.75	182	1751	7	63	12	118	0	0																
	7/1/1984	7/31/1984	22			2.75	156	1575	6	60	11	112	0	0																
	8/1/1984	8/31/1984	23			2.75	170	1795	5	51	9	94	0	0																
	9/1/1984	9/30/1984	20			1.75	181	1056	6	36	11	65	0	0																
	10/1/1984	10/31/1984	23			1.75	174	1164	6	37	9	63	0	0																
	11/1/1984	11/30/1984	22			1.75	174	1114	5	34	9	57	0	0																
	12/1/1984	12/31/1984	21			1.75	173	1060	5	32	8	52	0	0																
	1/1/1985	1/31/1985	23			1.75	176	1180	5	34	8	55	0	0																
	2/1/1985	2/28/1985	20			1.75	4	21	0	0	0	1	0	0																
	3/1/1985	3/31/1985	21			1.75	9	53	0	1	0	3	0	0																
	4/1/1985	4/30/1985	22			1.75	8	52	0	1	0	3	0	0																
	5/1/1985	5/31/1985	23			2.75	5	50	0	1	0	4	0	0																
	6/1/1985	6/30/1985	20			2.75	5	47	0	1	0	4	0	0																
	7/1/1985	7/31/1985	23			2.75	6	58	0	1	0	5	0	0																
	8/1/1985	8/31/1985	22			2.75	6	61	0	1	1	5	0	0																
	9/1/1985	9/30/1985	21			1.75	7	40	0	1	1	4	0	0																
	10/1/1985	10/31/1985	23			1.75	7	47	0	1	1	4	0	0																
	11/1/1985	11/30/1985	21			1.75	8	47	0	1	1	4	0	0																
	12/1/1985	12/31/1985	22			1.75	8	53	0	1	1	5	0	0																
	1/1/1986	1/31/1986	23			1.75	9	59	0	1	1	5	0	0																
	2/1/1986	2/28/1986	20			1.75	9	55	0	1	1	5	0	0																
	3/1/1986	3/31/1986	21			1.75	12	74	0	1	1	6	0	0																
	4/1/1986	4/30/1986	22			1.75	11	69	0	1	1	6	0	0																
	5/1/1986	5/31/1986	22			2.75	12	116	0	2	1	9	0	0																
	6/1/1986	6/30/1986	21			2.75	12	118	0	2	1	9	0	0																
	7/1/1986	7/31/1986	23			2.75	13	138	0	3	1	10	0	0																
	8/1/1986	8/31/1986	21			2.75	14	133	0	3	1	9	0	0																
	9/1/1986	9/12/1986	10			1.75	15	43	0	1	1	3	0	0																
	9/28/1986	9/30/1986	2			1.75	15	9	0	0	1	1	0	0																
	10/1/1986	10/31/1986	23			1.75	15	103	0	2	1	7	0	0																
	11/1/1986	11/30/1986	20			1.75	16	94	0	2	1	6	0	0																
	12/1/1986	12/31/1986	23			1.75	17	114	0	2	1	7	0	0																
	1/1/1987	1/31/1987	22			1.75	18	114	0	2	1	6	0	0																

		2/1/1987	2/28/1987	20			1.75	18	108	0	2	1	6	0	0																
		3/1/1987	3/31/1987	22			1.75	0	0	0	0	0	0	0	0																
		4/1/1987	4/30/1987	22			1.75	0	0	0	0	0	0	0	0																
		5/1/1987	5/31/1987	21			2.75	0	0	0	0	0	0	0	0																
		6/1/1987	6/30/1987	22			2.75	0	0	0	0	0	0	0	0																
		7/1/1987	7/31/1987	23			2.75	0	0	0	0	0	0	0	0																
		8/1/1987	8/31/1987	21			2.75	0	0	0	0	0	0	0	0																
		9/1/1987	9/30/1987	22			1.75	0	0	0	0	0	0	0	0																
		10/1/1987	10/31/1987	22			1.75	0	0	0	0	0	0	0	0																
		11/1/1987	11/30/1987	21			1.75	0	0	0	0	0	0	0	0																
		12/1/1987	12/31/1987	23			1.75	0	0	0	0	0	0	0	0																
		Total µg/L-Months							53,017		1,700		3,079		-		13,106		386,741		19,856		5,702		-		457		10		-

Chart 4: ATSDR civilian estimate RME (3.092 L consumption per day)

		Finished Water Concentration [µg/L]						Tarawa Terrace		Tarawa Terrace		Tarawa Terrace		Tarawa Terrace		Hadnot Point		Hadnot Point		Hadnot Point		Hadnot Point		Midway Park		Midway Park		Midway Park		Midway Park	
Exposure Period	**Camp Lejeune Potential Exposure (Days)**	**Exposure Period Start**	**Exposure Period End**	**Week Days**	**Weekend**	**Total Days**	**volume consumed**	**PCE**	**Cumulative consumption (total ug= days*concentration per L)**	**TCE**	**Cumulative consumption (total ug= days*concentration per L)**	**VC**	**Cumulative consumption (total ug= days*concentration per L)**	**BZ**	**Cumulative consumption (total ug= days*concentration per L)**	**PCE**	**Cumulative consumption (total ug= days*concentration per L)**	**TCE**	**Cumulative consumption (total ug= days*concentration per L)**	**VC**	**Cumulative consumption (total ug= days*concentration per L)**	**BZ**	**Cumulative consumption (total ug= days*concentration per L)**	**PCE**	**Cumulative consumption (total ug= days*concentration per L)**	**TCE**	**Cumulative consumption (total ug= days*concentration per L)**	**VC**	**Cumulative consumption (total ug= days*concentration per L)**	**BZ**	**Cumulative consumption (total ug= days*concentration per L)**
		2/1/1968	2/29/1968	21			3.09									0	0	26	562	0	0	1	22								
		3/1/1968	3/31/1968	21			3.09									0	0	23	497	0	0	1	22								
		4/1/1968	4/30/1968	22			3.09									0	0	30	680	0	0	1	23								
		5/1/1968	5/31/1968	23			3.09									0	0	24	568	0	0	1	24								
		6/1/1968	6/30/1968	20			3.09									0	0	24	494	0	0	1	21								
		7/1/1968	7/31/1968	23			3.09									0	0	25	592	0	0	1	24								
		8/1/1968	8/31/1968	22			3.09									0	0	32	725	0	0	1	23								
		9/1/1968	9/30/1968	21			3.09									0	0	28	605	0	0	1	22								
		10/1/1968	10/31/1968	23			3.09									0	0	31	734	0	0	1	24								
		11/1/1968	11/30/1968	21			3.09									0	0	31	670	0	0	2	43								
		12/1/1968	12/31/1968	22			3.09									0	0	29	657	0	0	1	23								
		1/1/1969	1/31/1969	23			3.09									0	0	28	663	0	0	1	24								
		2/1/1969	2/28/1969	20			3.09									0	0	28	577	0	0	1	21								
		3/1/1969	3/31/1969	21			3.09									0	0	23	497	0	0	1	22								
		4/1/1969	4/30/1969	22			3.09									0	0	32	725	0	0	2	45								
		5/1/1969	5/31/1969	22			3.09									0	0	26	589	0	0	1	23								
		6/1/1969	6/30/1969	21			3.09									0	0	26	562	0	0	1	22								
		7/1/1969	7/31/1969	23			3.09									0	0	24	568	0	0	1	24								
		8/1/1969	8/31/1969	21			3.09									0	0	18	389	0	0	1	22								
		9/1/1969	9/30/1969	22			3.09									0	0	8	181	0	0	1	23								
		10/1/1969	10/31/1969	23			3.09									0	0	8	189	0	0	1	24								
		11/1/1969	11/30/1969	20			3.09									0	0	24	494	0	0	2	41								
		12/1/1969	12/31/1969	23			3.09									0	0	24	568	0	0	2	47								
		1/1/1970	1/31/1970	22			3.09									0	0	23	521	0	0	2	45								
		2/1/1970	2/28/1970	20			3.09									0	0	23	474	0	0	2	41								
		3/1/1970	3/31/1970	22			3.09									0	0	19	430	0	0	1	23								
		4/1/1970	4/30/1970	22			3.09									0	0	26	589	0	0	2	45								
		5/1/1970	5/31/1970	21			3.09									0	0	20	432	0	0	2	43								
		6/1/1970	6/30/1970	22			3.09									0	0	20	453	0	0	2	45								
		7/1/1970	7/31/1970	23			3.09									0	0	20	474	0	0	2	47								
		8/1/1970	8/31/1970	21			3.09									0	0	24	519	0	0	2	43								
		9/1/1970	9/30/1970	22			3.09									0	0	21	476	0	0	2	45								
		10/1/1970	10/31/1970	22			3.09									0	0	23	521	0	0	2	45								
		11/1/1970	11/30/1970	21			3.09									0	0	25	541	0	0	3	65								
		12/1/1970	12/31/1970	23			3.09									0	0	22	521	0	0	2	47								
		1/1/1971	1/31/1971	21			3.09									0	0	22	476	0	0	2	43								
		2/1/1971	2/28/1971	20			3.09									0	0	21	432	0	0	2	41								
		3/1/1971	3/31/1971	23			3.09									0	0	17	403	0	0	2	47								
		4/1/1971	4/30/1971	22			3.09									0	0	24	544	0	0	3	68								
		5/1/1971	5/31/1971	21			3.09									0	0	19	411	0	0	2	43								
		6/1/1971	6/30/1971	22			3.09									0	0	19	430	0	0	2	45								
		7/1/1971	7/31/1971	22			3.09									0	0	19	430	0	0	2	45								
		8/1/1971	8/2/1971	1			3.09									0	0	24	25	0	0	3	3								
		8/21/1972	8/31/1972	9			3.09									0	0	20	185	1	9	3	28								
		9/1/1972	9/30/1972	21			3.09									0	0	18	389	1	22	2	43								
		10/1/1972	10/31/1972	22			3.09									0	0	18	408	0	0	3	68								
		11/1/1972	11/30/1972	22			3.09									0	0	25	566	3	68	3	68								
		12/1/1972	12/31/1972	21			3.09									0	0	32	692	3	65	2	43								
		1/1/1973	1/31/1973	23			3.09									0	0	27	639	2	47	3	71								
		2/1/1973	2/28/1973	20			3.09									0	0	34	700	3	62	2	41								
		3/1/1973	3/31/1973	22			3.09									0	0	38	861	3	68	2	45								
		4/1/1973	4/30/1973	21			3.09									0	0	38	822	2	43	3	65								
		5/1/1973	5/31/1973	23			3.09									0	0	43	1018	3	71	3	71								
		6/1/1973	6/30/1973	21			3.09									0	0	57	1232	4	86	3	65								
		7/1/1973	7/31/1973	22			3.09									1	23	73	1654	5	113	3	68								
		8/1/1973	8/31/1973	23			3.09									1	24	109	2581	7	166	3	71								
		9/1/1973	9/30/1973	20			3.09									1	21	96	1977	5	103	3	62								
		10/1/1973	10/31/1973	23			3.09									0	0	31	734	1	24	3	71								
		11/1/1973	11/30/1973	22			3.09									2	45	187	4236	10	227	3	68								
		12/1/1973	12/31/1973	21			3.09									3	65	201	4346	10	216	2	43								
		1/1/1974	1/31/1974	23			3.09									1	24	106	2510	5	118	3	71								
		2/1/1974	2/28/1974	20			3.09									2	41	152	3130	7	144	2	41								
		3/1/1974	3/31/1974	21			3.09									3	65	163	3524	7	151	2	43								
		4/1/1974	4/30/1974	22			3.09									2	45	116	2628	5	113	3	68								
		5/1/1974	5/31/1974	23			3.09									2	47	142	3363	6	142	2	47								
		6/1/1974	6/30/1974	20			3.09									3	62	179	3686	8	165	2	41								
		7/1/1974	7/31/1974	23			3.09									4	95	209	4949	9	213	2	47								
		8/1/1974	8/31/1974	22			3.09									5	113	274	6207	12	272	3	68								
		9/1/1974	9/30/1974	21			3.09									4	86	217	4692	9	195	3	65								
		10/1/1974	10/31/1974	23			3.09									1	24	50	1184	2	47	3	71								
		11/1/1974	11/30/1974	21			3.09									8	173	399	8627	17	368	3	65								
		12/1/1974	12/31/1974	22			3.09									8	181	369	8359	15	340	3	68								

		1/1/1975	1/31/1975	23			3.09										4	95	179	4239	7	166	3	71										
		2/1/1975	2/28/1975	20			3.09										6	124	252	5189	11	227	3	62										
		3/1/1975	3/31/1975	21			3.09										6	130	261	5643	11	238	2	43										
		4/1/1975	4/30/1975	22			3.09										4	91	174	3941	7	159	3	68										
		5/1/1975	5/31/1975	22			3.09										5	113	211	4780	9	204	3	68										
		6/1/1975	6/30/1975	21			3.09										7	151	260	5622	11	238	2	43										
		7/1/1975	7/31/1975	23			3.09										8	189	294	6962	13	308	3	71										
		8/1/1975	8/25/1975	17			3.09										10	175	368	6441	16	280	3	53										
		9/3/1975	9/30/1975	20			3.09										8	165	285	5869	12	247	3	62										
		10/1/1975	10/31/1975	23			3.09										1	24	61	1445	2	47	3	71										
		11/1/1975	11/30/1975	20			3.09										14	288	503	10358	23	474	3	62										
		12/1/1975	12/31/1975	23			3.09										13	308	451	10680	20	474	3	71										
		1/1/1976	1/31/1976	22			3.09										7	159	227	5142	10	227	3	68										
		2/1/1976	2/29/1976	20			3.09										10	206	317	6528	14	288	3	62										
		3/1/1976	3/31/1976	23			3.09										10	237	323	7649	15	355	2	47										
		4/1/1976	4/30/1976	22			3.09										6	136	212	4802	9	204	4	91										
		5/1/1976	5/31/1976	21			3.09										8	173	257	5557	12	259	3	65										
		6/1/1976	6/30/1976	22			3.09										10	227	314	7113	15	340	3	68										
		7/1/1976	7/31/1976	22			3.09										12	272	348	7883	16	362	3	68										
		8/1/1976	8/31/1976	22			3.09										15	340	436	9876	20	453	4	91										
		9/1/1976	9/30/1976	22			3.09										11	249	336	7611	16	362	3	68										
		10/1/1976	10/31/1976	21			3.09										2	43	70	1514	3	65	3	65										
		11/1/1976	11/30/1976	22			3.09										19	430	543	12300	26	589	4	91										
		12/1/1976	12/31/1976	23			3.09										19	450	520	12314	25	592	3	71										
		1/1/1977	1/31/1977	21			3.09										9	195	249	5384	12	259	4	86										
		2/1/1977	2/28/1977	20			3.09										13	268	346	7125	17	350	3	62										
		3/1/1977	3/31/1977	23			3.09										13	308	342	8099	17	403	2	47										
		4/1/1977	4/30/1977	21			3.09										8	173	218	4714	11	238	4	86										
		5/1/1977	5/31/1977	22			3.09										10	227	264	5980	13	294	3	68										
		6/1/1977	6/30/1977	22			3.09										12	272	320	7249	17	385	3	68										
		7/1/1977	7/31/1977	21			3.09										14	303	355	7676	19	411	3	65										
		8/1/1977	8/31/1977	23			3.09										17	403	440	10420	23	545	4	95										
		9/1/1977	9/30/1977	22			3.09										13	294	338	7656	18	408	4	91										
		10/1/1977	10/31/1977	21			3.09										2	43	69	1492	3	65	4	86										
		11/1/1977	11/30/1977	22			3.09										22	498	544	12323	30	680	4	91										
		12/1/1977	12/31/1977	22			3.09										21	476	513	11620	28	634	4	91										
		1/1/1978	1/31/1978	22			3.09										10	227	250	5663	14	317	4	91										
		2/1/1978	2/28/1978	20			3.09										14	288	348	7166	19	391	3	62										
		3/1/1978	3/31/1978	23			3.09										15	355	352	8336	20	474	3	71										
		4/1/1978	4/30/1978	20			3.09										9	185	231	4757	13	268	5	103										
		5/1/1978	5/31/1978	23			3.09										12	284	278	6583	16	379	4	95										
		6/1/1978	6/30/1978	22			3.09										14	317	333	7543	19	430	3	68										
		7/1/1978	7/31/1978	21			3.09										17	368	388	8389	23	497	3	65										
		8/1/1978	8/31/1978	23			3.09										20	474	475	11249	28	663	4	95										
		9/1/1978	9/30/1978	21			3.09										16	346	364	7871	22	476	4	86										
		10/1/1978	10/31/1978	22			3.09										3	68	74	1676	4	91	4	91										
		11/1/1978	11/30/1978	22			3.09										24	544	544	12323	33	748	5	113										
		12/1/1978	12/31/1978	21			3.09										24	519	546	11806	33	714	4	86										
		1/1/1979	1/31/1979	23			3.09										12	284	268	6347	16	379	6	142										
		2/1/1979	2/28/1979	20			3.09										17	350	370	7619	23	474	5	103										
		3/1/1979	3/31/1979	22			3.09										17	385	378	8562	24	544	5	113										
		4/1/1979	4/30/1979	21			3.09										11	238	230	4973	15	324	4	86										
		5/1/1979	5/31/1979	23			3.09										13	308	274	6489	18	426	3	71										
		6/1/1979	6/30/1979	21			3.09										15	324	320	6919	21	454	3	65										
		7/1/1979	7/31/1979	22			3.09										17	385	361	8177	23	521	3	68										
		8/1/1979	8/31/1979	23			3.09										22	521	483	11438	31	734	0	0										
		9/1/1979	9/30/1979	20			3.09										17	350	358	7372	23	474	3	62										
		10/1/1979	10/31/1979	23			3.09										3	71	71	1681	4	95	4	95										
		11/1/1979	11/30/1979	22			3.09										23	521	507	11485	33	748	6	136										
		12/1/1979	12/31/1979	21			3.09										23	497	504	10898	33	714	6	130										
		1/1/1980	1/31/1980	23			3.09										12	284	264	6252	17	403	7	166										
		2/1/1980	2/29/1980	21			3.09										17	368	378	8173	24	519	6	130										
		3/1/1980	3/31/1980	21			3.09										20	432	433	9362	28	605	6	130										
		4/1/1980	4/30/1980	22			3.09										12	272	273	6184	17	385	8	181										
		5/1/1980	5/30/1980	22			3.09										15	340	322	7294	21	476	6	136										
		6/1/1980	6/30/1980	21			3.09	126	1360	4	42	7	76	0	0										0	0	8	86	1	11	0	0
		7/1/1980	7/31/1980	23			3.09	1	9	0	0	0	0	0	0										0	0	0	0	0	0	0	0
		8/1/1980	8/31/1980	21			3.09	1	8	0	0	0	0	0	0										0	0	0	0	0	0	0	0
		9/1/1980	9/30/1980	22			3.09	121	1375	4	44	7	77	0	0										0	0	0	0	0	0	0	0
		10/1/1980	10/31/1980	23			3.09	122	1441	4	43	6	69	0	0										0	0	0	0	0	0	0	0
		11/1/1980	11/30/1980	20			3.09	122	1258	4	37	6	60	0	0										0	0	0	0	0	0	0	0
		12/1/1980	12/31/1980	23			3.09	123	1456	4	43	6	69	0	0										0	0	0	0	0	0	0	0
		1/1/1981	1/31/1981	22			3.09	114	1292	3	38	5	62	0	0										0	0	0	0	0	0	0	0
		2/1/1981	2/28/1981	20			3.09	114	1178	3	35	6	57	0	0										0	0	0	0	0	0	0	0
		3/1/1981	3/31/1981	22			3.09	116	1309	3	38	5	62	0	0										0	0	0	0	0	0	0	0
		4/1/1981	4/30/1981	22			3.09	117	1320	3	39	6	64	0	0										0	0	4	45	0	0	0	0
		5/1/1981	5/31/1981	21			3.09	117	1268	4	38	6	63	0	0										0	0	4	43	0	0	0	0
		6/1/1981	6/30/1981	22			3.09	118	1341	4	41	6	68	0	0										0	0	4	45	0	0	0	0
		7/1/1981	7/31/1981	23			3.09	133	1578	4	49	7	84	0	0										0	0	2	24	0	0	0	0
		8/1/1981	8/31/1981	21			3.09	134	1452	4	47	8	81	0	0										0	0	2	22	0	0	0	0
		9/1/1981	9/30/1981	22			3.09	121	1367	4	45	7	78	0	0										0	0	0	0	0	0	0	0
		10/1/1981	10/31/1981	22			3.09	121	1371	4	45	7	78	0	0										0	0	0	0	0	0	0	0
		11/1/1981	11/30/1981	21			3.09	121	1313	4	43	7	75	0	0										0	0	0	0	0	0	0	0
		12/1/1981	12/31/1981	23			3.09	122	1442	4	47	7	83	0	0										0	0	0	0	0	0	0	0
		1/1/1982	1/31/1982	21			3.09	104	1124	3	36	6	63	0	0										0	0	0	0	0	0	0	0
		2/1/1982	2/28/1982	20			3.09	106	1090	3	35	6	63	0	0										0	0	0	0	0	0	0	0
		3/1/1982	3/31/1982	23			3.09	108	1273	4	42	6	75	0	0										0	0	0	0	0	0	0	0
		4/1/1982	4/30/1982	22			3.09	109	1233	4	41	7	74	0	0										0	0	3	34	0	0	0	0
		5/1/1982	5/31/1982	21			3.09	149	1605	5	54	9	99	0	0										0	0	6	65	0	0	0	0
		6/1/1982	6/30/1982	22			3.09	111	1255	4	44	7	82	0	0										0	0	4	45	0	0	0	0
		7/1/1982	7/31/1982	22			3.09	112	1268	4	44	7	82	0	0										0	0	4	45	0	0	0	0
		8/1/1982	8/31/1982	22			3.09	113	1281	4	44	7	83	0	0										0	0	3	34	0	0	0	0
		9/1/1982	9/30/1982	22			3.09	114	1292	4	45	7	84	0	0										0	0	0	0	0	0	0	0
		10/1/1982	10/31/1982	21			3.09	115	1239	4	43	8	82	0	0										0	0	0	0	0	0	0	0
		11/1/1982	11/30/1982	22			3.09	114	1290	4	45	8	85	0	0										0	0	0	0	0	0	0	0
		12/1/1982	12/31/1982	23			3.09	115	1364	4	45	7	81	0	0										0	0	0	0	0	0	0	0
		1/1/1983	1/31/1983	21			3.09	1	14	0	0	0	1	0	0										0	0	0	0	0	0	0	0
		2/1/1983	2/28/1983	20			3.09	1	13	0	0	0	1	0	0										0	0	0	0	0	0	0	0

		3/1/1983	3/31/1983	23			3.09	112	1323	4	43	6	75	0	0									0	0	0	0	0	0	0	0
		4/1/1983	4/30/1983	21			3.09	113	1218	3	37	6	62	0	0									0	0	0	0	0	0	0	0
		5/1/1983	5/30/1983	21			3.09	114	1232	4	38	6	64	0	0									0	0	5	54	0	0	0	0
		6/1/1983	6/30/1983	22			3.09	106	1202	3	38	6	65	0	0																
		7/1/1983	7/31/1983	21			3.09	117	1262	4	41	7	70	0	0																
		8/1/1983	8/31/1983	23			3.09	118	1394	4	46	7	81	0	0																
		9/1/1983	9/30/1983	22			3.09	118	1335	4	45	7	82	0	0																
		10/1/1983	10/31/1983	21			3.09	118	1275	4	43	7	77	0	0																
		11/1/1983	11/30/1983	22			3.09	119	1344	4	44	7	79	0	0																
		12/1/1983	12/31/1983	22			3.09	121	1368	4	44	7	79	0	0																
		1/1/1984	1/31/1984	22			3.09	133	1505	5	52	8	95	0	0																
		2/1/1984	2/29/1984	21			3.09	180	1950	6	64	11	114	0	0																
		3/1/1984	3/31/1984	22			3.09	183	2073	6	73	12	136	0	0																
		4/1/1984	4/30/1984	21			3.09	151	1637	6	60	10	111	0	0																
		5/1/1984	5/31/1984	23			3.09	153	1817	5	65	10	120	0	0																
		6/1/1984	6/30/1984	21			3.09	182	1969	7	71	12	133	0	0																
		7/1/1984	7/31/1984	22			3.09	156	1771	6	67	11	126	0	0																
		8/1/1984	8/31/1984	23			3.09	170	2019	5	57	9	106	0	0																
		9/1/1984	9/30/1984	20			3.09	181	1866	6	64	11	115	0	0																
		10/1/1984	10/31/1984	23			3.09	174	2057	6	66	9	111	0	0																
		11/1/1984	11/30/1984	22			3.09	174	1968	5	60	9	100	0	0																
		12/1/1984	12/31/1984	21			3.09	173	1872	5	56	8	91	0	0																
		1/1/1985	1/31/1985	23			3.09	176	2085	5	61	8	97	0	0																
		2/1/1985	2/28/1985	20			3.09	4	37	0	1	0	2	0	0																
		3/1/1985	3/31/1985	21			3.09	9	94	0	2	0	5	0	0																
		4/1/1985	4/30/1985	22			3.09	8	92	0	2	0	6	0	0																
		5/1/1985	5/31/1985	23			3.09	5	56	0	1	0	4	0	0																
		6/1/1985	6/30/1985	20			3.09	5	53	0	1	0	4	0	0																
		7/1/1985	7/31/1985	23			3.09	6	66	0	1	0	6	0	0																
		8/1/1985	8/31/1985	22			3.09	6	68	0	1	1	6	0	0																
		9/1/1985	9/30/1985	21			3.09	7	70	0	1	1	6	0	0																
		10/1/1985	10/31/1985	23			3.09	7	84	0	2	1	8	0	0																
		11/1/1985	11/30/1985	21			3.09	8	83	0	2	1	8	0	0																
		12/1/1985	12/31/1985	22			3.09	8	94	0	2	1	9	0	0																
		1/1/1986	1/31/1986	23			3.09	9	105	0	2	1	10	0	0																
		2/1/1986	2/28/1986	20			3.09	9	97	0	2	1	9	0	0																
		3/1/1986	3/31/1986	21			3.09	12	131	0	3	1	11	0	0																
		4/1/1986	4/30/1986	22			3.09	11	123	0	2	1	10	0	0																
		5/1/1986	5/31/1986	22			3.09	12	131	0	3	1	10	0	0																
		6/1/1986	6/30/1986	21			3.09	12	133	0	3	1	10	0	0																
		7/1/1986	7/31/1986	23			3.09	13	155	0	3	1	11	0	0																
		8/1/1986	8/31/1986	21			3.09	14	150	0	3	1	10	0	0																
		9/1/1986	9/12/1986	10			3.09	15	75	0	2	1	5	0	0																
		9/28/1986	9/30/1986	2			3.09	15	15	0	0	1	1	0	0																
		10/1/1986	10/31/1986	23			3.09	15	183	0	4	1	12	0	0																
		11/1/1986	11/30/1986	20			3.09	16	167	0	3	1	10	0	0																
		12/1/1986	12/31/1986	23			3.09	17	202	0	4	1	12	0	0																
		1/1/1987	1/31/1987	22			3.09	18	202	0	4	1	11	0	0																
		2/1/1987	2/28/1987	20			3.09	18	190	0	4	1	11	0	0																
		3/1/1987	3/31/1987	22			3.09	0	0	0	0	0	0	0	0																
		4/1/1987	4/30/1987	22			3.09	0	0	0	0	0	0	0	0																
		5/1/1987	5/31/1987	21			3.09	0	0	0	0	0	0	0	0																
		6/1/1987	6/30/1987	22			3.09	0	0	0	0	0	0	0	0																
		7/1/1987	7/31/1987	23			3.09	0	0	0	0	0	0	0	0																
		8/1/1987	8/31/1987	21			3.09	0	0	0	0	0	0	0	0																
		9/1/1987	9/30/1987	22			3.09	0	0	0	0	0	0	0	0																
		10/1/1987	10/31/1987	22			3.09	0	0	0	0	0	0	0	0																
		11/1/1987	11/30/1987	21			3.09	0	0	0	0	0	0	0	0																
		12/1/1987	12/31/1987	23			3.09	0	0	0	0	0	0	0	0																
		Total µg/L-Months							78,872		2,524		4,558		-		19,271		569,577		29,207		8,537		-		543		11		-

Chart 5: ATSDR civilian estimate CTE (1.227 L consumption per day)

		Finished Water Concentration [µg/L]						Tarawa Terrace		Tarawa Terrace		Tarawa Terrace		Tarawa Terrace		Hadnot Point		Hadnot Point		Hadnot Point		Hadnot Point		Midway Park		Midway Park		Midway Park		Midway Park	
Exposure Period	**Camp Lejeune Potential Exposure (Days)**	**Exposure Period Start**	**Exposure Period End**	**Week Days**	**Weekend**	**Total Days**	**ATSDR CTE**	**PCE**	**Cumulative consumption (total ug= days*concentration per L)**	**TCE**	**Cumulative consumption (total ug= days*concentration per L)**	**VC**	**Cumulative consumption (total ug= days*concentration per L)**	**BZ**	**Cumulative consumption (total ug= days*concentration per L)**	**PCE**	**Cumulative consumption (total ug= days*concentration per L)**	**TCE**	**Cumulative consumption (total ug= days*concentration per L)**	**VC**	**Cumulative consumption (total ug= days*concentration per L)**	**BZ**	**Cumulative consumption (total ug= days*concentration per L)**	**PCE**	**Cumulative consumption (total ug= days*concentration per L)**	**TCE**	**Cumulative consumption (total ug= days*concentration per L)**	**VC**	**Cumulative consumption (total ug= days*concentration per L)**	**BZ**	**Cumulative consumption (total ug= days*concentration per L)**
		2/1/1968	2/29/1968	21			1.23									0	0	26	223	0	0	1	9								
		3/1/1968	3/31/1968	21			1.23									0	0	23	197	0	0	1	9								
		4/1/1968	4/30/1968	22			1.23									0	0	30	270	0	0	1	9								
		5/1/1968	5/31/1968	23			1.23									0	0	24	226	0	0	1	9								
		6/1/1968	6/30/1968	20			1.23									0	0	24	196	0	0	1	8								
		7/1/1968	7/31/1968	23			1.23									0	0	25	235	0	0	1	9								
		8/1/1968	8/31/1968	22			1.23									0	0	32	288	0	0	1	9								
		9/1/1968	9/30/1968	21			1.23									0	0	28	240	0	0	1	9								
		10/1/1968	10/31/1968	23			1.23									0	0	31	291	0	0	1	9								
		11/1/1968	11/30/1968	21			1.23									0	0	31	266	0	0	2	17								
		12/1/1968	12/31/1968	22			1.23									0	0	29	261	0	0	1	9								
		1/1/1969	1/31/1969	23			1.23									0	0	28	263	0	0	1	9								
		2/1/1969	2/28/1969	20			1.23									0	0	28	229	0	0	1	8								
		3/1/1969	3/31/1969	21			1.23									0	0	23	197	0	0	1	9								
		4/1/1969	4/30/1969	22			1.23									0	0	32	288	0	0	2	18								
		5/1/1969	5/31/1969	22			1.23									0	0	26	234	0	0	1	9								
		6/1/1969	6/30/1969	21			1.23									0	0	26	223	0	0	1	9								
		7/1/1969	7/31/1969	23			1.23									0	0	24	226	0	0	1	9								
		8/1/1969	8/31/1969	21			1.23									0	0	18	154	0	0	1	9								
		9/1/1969	9/30/1969	22			1.23									0	0	8	72	0	0	1	9								
		10/1/1969	10/31/1969	23			1.23									0	0	8	75	0	0	1	9								
		11/1/1969	11/30/1969	20			1.23									0	0	24	196	0	0	2	16								
		12/1/1969	12/31/1969	23			1.23									0	0	24	226	0	0	2	19								
		1/1/1970	1/31/1970	22			1.23									0	0	23	207	0	0	2	18								

2/1/1970	2/28/1970	20	1.23	0	0	23	188	0	0	2	16
3/1/1970	3/31/1970	22	1.23	0	0	19	171	0	0	1	9
4/1/1970	4/30/1970	22	1.23	0	0	26	234	0	0	2	18
5/1/1970	5/31/1970	21	1.23	0	0	20	172	0	0	2	17
6/1/1970	6/30/1970	22	1.23	0	0	20	180	0	0	2	18
7/1/1970	7/31/1970	23	1.23	0	0	20	188	0	0	2	19
8/1/1970	8/31/1970	21	1.23	0	0	24	206	0	0	2	17
9/1/1970	9/30/1970	22	1.23	0	0	21	189	0	0	2	18
10/1/1970	10/31/1970	22	1.23	0	0	23	207	0	0	2	18
11/1/1970	11/30/1970	21	1.23	0	0	25	215	0	0	3	26
12/1/1970	12/31/1970	23	1.23	0	0	22	207	0	0	2	19
1/1/1971	1/31/1971	21	1.23	0	0	22	189	0	0	2	17
2/1/1971	2/28/1971	20	1.23	0	0	21	172	0	0	2	16
3/1/1971	3/31/1971	23	1.23	0	0	17	160	0	0	2	19
4/1/1971	4/30/1971	22	1.23	0	0	24	216	0	0	3	27
5/1/1971	5/31/1971	21	1.23	0	0	19	163	0	0	2	17
6/1/1971	6/30/1971	22	1.23	0	0	19	171	0	0	2	18
7/1/1971	7/31/1971	22	1.23	0	0	19	171	0	0	2	18
8/1/1971	8/2/1971	1	1.23	0	0	24	10	0	0	3	1
8/21/1972	8/31/1972	9	1.23	0	0	20	74	1	4	3	11
9/1/1972	9/30/1972	21	1.23	0	0	18	154	1	9	2	17
10/1/1972	10/31/1972	22	1.23	0	0	18	162	0	0	3	27
11/1/1972	11/30/1972	22	1.23	0	0	25	225	3	27	3	27
12/1/1972	12/31/1972	21	1.23	0	0	32	275	3	26	2	17
1/1/1973	1/31/1973	23	1.23	0	0	27	254	2	19	3	28
2/1/1973	2/28/1973	20	1.23	0	0	34	278	3	25	2	16
3/1/1973	3/31/1973	22	1.23	0	0	38	342	3	27	2	18
4/1/1973	4/30/1973	21	1.23	0	0	38	326	2	17	3	26
5/1/1973	5/31/1973	23	1.23	0	0	43	404	3	28	3	28
6/1/1973	6/30/1973	21	1.23	0	0	57	489	4	34	3	26
7/1/1973	7/31/1973	22	1.23	1	9	73	656	5	45	3	27
8/1/1973	8/31/1973	23	1.23	1	9	109	1024	7	66	3	28
9/1/1973	9/30/1973	20	1.23	1	8	96	784	5	41	3	25
10/1/1973	10/31/1973	23	1.23	0	0	31	291	1	9	3	28
11/1/1973	11/30/1973	22	1.23	2	18	187	1681	10	90	3	27
12/1/1973	12/31/1973	21	1.23	3	26	201	1725	10	86	2	17
1/1/1974	1/31/1974	23	1.23	1	9	106	996	5	47	3	28
2/1/1974	2/28/1974	20	1.23	2	16	152	1242	7	57	2	16
3/1/1974	3/31/1974	21	1.23	3	26	163	1399	7	60	2	17
4/1/1974	4/30/1974	22	1.23	2	18	116	1043	5	45	3	27
5/1/1974	5/31/1974	23	1.23	2	19	142	1334	6	56	2	19
6/1/1974	6/30/1974	20	1.23	3	25	179	1463	8	65	2	16
7/1/1974	7/31/1974	23	1.23	4	38	209	1964	9	85	2	19
8/1/1974	8/31/1974	22	1.23	5	45	274	2463	12	108	3	27
9/1/1974	9/30/1974	21	1.23	4	34	217	1862	9	77	3	26
10/1/1974	10/31/1974	23	1.23	1	9	50	470	2	19	3	28
11/1/1974	11/30/1974	21	1.23	8	69	399	3424	17	146	3	26
12/1/1974	12/31/1974	22	1.23	8	72	369	3317	15	135	3	27
1/1/1975	1/31/1975	23	1.23	4	38	179	1682	7	66	3	28
2/1/1975	2/28/1975	20	1.23	6	49	252	2059	11	90	3	25
3/1/1975	3/31/1975	21	1.23	6	51	261	2239	11	94	2	17
4/1/1975	4/30/1975	22	1.23	4	36	174	1564	7	63	3	27
5/1/1975	5/31/1975	22	1.23	5	45	211	1897	9	81	3	27
6/1/1975	6/30/1975	21	1.23	7	60	260	2231	11	94	2	17
7/1/1975	7/31/1975	23	1.23	8	75	294	2763	13	122	3	28
8/1/1975	8/25/1975	17	1.23	10	69	368	2556	16	111	3	21
9/3/1975	9/30/1975	20	1.23	8	65	285	2329	12	98	3	25
10/1/1975	10/31/1975	23	1.23	1	9	61	573	2	19	3	28
11/1/1975	11/30/1975	20	1.23	14	114	503	4110	23	188	3	25
12/1/1975	12/31/1975	23	1.23	13	122	451	4238	20	188	3	28
1/1/1976	1/31/1976	22	1.23	7	63	227	2041	10	90	3	27
2/1/1976	2/29/1976	20	1.23	10	82	317	2590	14	114	3	25
3/1/1976	3/31/1976	23	1.23	10	94	323	3035	15	141	2	19
4/1/1976	4/30/1976	22	1.23	6	54	212	1906	9	81	4	36
5/1/1976	5/31/1976	21	1.23	8	69	257	2205	12	103	3	26
6/1/1976	6/30/1976	22	1.23	10	90	314	2823	15	135	3	27
7/1/1976	7/31/1976	22	1.23	12	108	348	3128	16	144	3	27
8/1/1976	8/31/1976	22	1.23	15	135	436	3919	20	180	4	36
9/1/1976	9/30/1976	22	1.23	11	99	336	3020	16	144	3	27
10/1/1976	10/31/1976	21	1.23	2	17	70	601	3	26	3	26
11/1/1976	11/30/1976	22	1.23	19	171	543	4881	26	234	4	36
12/1/1976	12/31/1976	23	1.23	19	179	520	4887	25	235	3	28
1/1/1977	1/31/1977	21	1.23	9	77	249	2137	12	103	4	34
2/1/1977	2/28/1977	20	1.23	13	106	346	2827	17	139	3	25
3/1/1977	3/31/1977	23	1.23	13	122	342	3214	17	160	2	19
4/1/1977	4/30/1977	21	1.23	8	69	218	1871	11	94	4	34
5/1/1977	5/31/1977	22	1.23	10	90	264	2373	13	117	3	27
6/1/1977	6/30/1977	22	1.23	12	108	320	2876	17	153	3	27
7/1/1977	7/31/1977	21	1.23	14	120	355	3046	19	163	3	26
8/1/1977	8/31/1977	23	1.23	17	160	440	4135	23	216	4	38
9/1/1977	9/30/1977	22	1.23	13	117	338	3038	18	162	4	36
10/1/1977	10/31/1977	21	1.23	2	17	69	592	3	26	4	34
11/1/1977	11/30/1977	22	1.23	22	198	544	4890	30	270	4	36
12/1/1977	12/31/1977	22	1.23	21	189	513	4611	28	252	4	36
1/1/1978	1/31/1978	22	1.23	10	90	250	2247	14	126	4	36
2/1/1978	2/28/1978	20	1.23	14	114	348	2844	19	155	3	25
3/1/1978	3/31/1978	23	1.23	15	141	352	3308	20	188	3	28
4/1/1978	4/30/1978	20	1.23	9	74	231	1888	13	106	5	41
5/1/1978	5/31/1978	23	1.23	12	113	278	2613	16	150	4	38
6/1/1978	6/30/1978	22	1.23	14	126	333	2993	19	171	3	27
7/1/1978	7/31/1978	21	1.23	17	146	388	3329	23	197	3	26
8/1/1978	8/31/1978	23	1.23	20	188	475	4464	28	263	4	38
9/1/1978	9/30/1978	21	1.23	16	137	364	3123	22	189	4	34
10/1/1978	10/31/1978	22	1.23	3	27	74	665	4	36	4	36
11/1/1978	11/30/1978	22	1.23	24	216	544	4890	33	297	5	45
12/1/1978	12/31/1978	21	1.23	24	206	546	4685	33	283	4	34
1/1/1979	1/31/1979	23	1.23	12	113	268	2519	16	150	6	56
2/1/1979	2/28/1979	20	1.23	17	139	370	3024	23	188	5	41

		3/1/1979	3/31/1979	22			1.23									17	153	378	3398	24	216	5	45									
		4/1/1979	4/30/1979	21			1.23									11	94	230	1973	15	129	4	34									
		5/1/1979	5/31/1979	23			1.23									13	122	274	2575	18	169	3	28									
		6/1/1979	6/30/1979	21			1.23									15	129	320	2746	21	180	3	26									
		7/1/1979	7/31/1979	22			1.23									17	153	361	3245	23	207	3	27									
		8/1/1979	8/31/1979	23			1.23									22	207	483	4539	31	291	0	0									
		9/1/1979	9/30/1979	20			1.23									17	139	358	2926	23	188	3	25									
		10/1/1979	10/31/1979	23			1.23									3	28	71	667	4	38	4	38									
		11/1/1979	11/30/1979	22			1.23									23	207	507	4557	33	297	6	54									
		12/1/1979	12/31/1979	21			1.23									23	197	504	4325	33	283	6	51									
		1/1/1980	1/31/1980	23			1.23									12	113	264	2481	17	160	7	66									
		2/1/1980	2/29/1980	21			1.23									17	146	378	3243	24	206	6	51									
		3/1/1980	3/31/1980	21			1.23									20	172	433	3715	28	240	6	51									
		4/1/1980	4/30/1980	22			1.23									12	108	273	2454	17	153	8	72									
		5/1/1980	5/30/1980	22			1.23									15	135	322	2894	21	189	6	54									
		6/1/1980	6/30/1980	21			1.23	126	540	4	17	7	30	0	0									0	0	8	34	1	4	0	0
		7/1/1980	7/31/1980	23			1.23	1	3	0	0	0	0	0	0									0	0	0	0	0	0	0	0
		8/1/1980	8/31/1980	21			1.23	1	3	0	0	0	0	0	0									0	0	0	0	0	0	0	0
		9/1/1980	9/30/1980	22			1.23	121	545	4	18	7	31	0	0									0	0	0	0	0	0	0	0
		10/1/1980	10/31/1980	23			1.23	122	572	4	17	6	27	0	0									0	0	0	0	0	0	0	0
		11/1/1980	11/30/1980	20			1.23	122	489	4	15	6	24	0	0									0	0	0	0	0	0	0	0
		12/1/1980	12/31/1980	23			1.23	123	578	4	17	6	27	0	0									0	0	0	0	0	0	0	0
		1/1/1981	1/31/1981	22			1.23	114	513	3	15	5	25	0	0									0	0	0	0	0	0	0	0
		2/1/1981	2/28/1981	20			1.23	114	467	3	14	6	23	0	0									0	0	0	0	0	0	0	0
		3/1/1981	3/31/1981	22			1.23	116	520	3	15	5	24	0	0									0	0	0	0	0	0	0	0
		4/1/1981	4/30/1981	22			1.23	117	524	3	16	6	26	0	0									0	0	4	18	0	0	0	0
		5/1/1981	5/31/1981	21			1.23	117	503	4	15	6	25	0	0									0	0	4	17	0	0	0	0
		6/1/1981	6/30/1981	22			1.23	118	532	4	16	6	27	0	0									0	0	4	18	0	0	0	0
		7/1/1981	7/31/1981	23			1.23	133	626	4	20	7	33	0	0									0	0	2	9	0	0	0	0
		8/1/1981	8/31/1981	21			1.23	134	576	4	19	8	32	0	0									0	0	2	9	0	0	0	0
		9/1/1981	9/30/1981	22			1.23	121	543	4	18	7	31	0	0									0	0	0	0	0	0	0	0
		10/1/1981	10/31/1981	22			1.23	121	544	4	18	7	31	0	0									0	0	0	0	0	0	0	0
		11/1/1981	11/30/1981	21			1.23	121	521	4	17	7	30	0	0									0	0	0	0	0	0	0	0
		12/1/1981	12/31/1981	23			1.23	122	572	4	19	7	33	0	0									0	0	0	0	0	0	0	0
		1/1/1982	1/31/1982	21			1.23	104	446	3	14	6	25	0	0									0	0	0	0	0	0	0	0
		2/1/1982	2/28/1982	20			1.23	106	433	3	14	6	25	0	0									0	0	0	0	0	0	0	0
		3/1/1982	3/31/1982	23			1.23	108	505	4	16	6	30	0	0									0	0	0	0	0	0	0	0
		4/1/1982	4/30/1982	22			1.23	109	489	4	16	7	29	0	0									0	0	3	13	0	0	0	0
		5/1/1982	5/31/1982	21			1.23	149	637	5	21	9	39	0	0									0	0	6	26	0	0	0	0
		6/1/1982	6/30/1982	22			1.23	111	498	4	17	7	33	0	0									0	0	4	18	0	0	0	0
		7/1/1982	7/31/1982	22			1.23	112	503	4	17	7	32	0	0									0	0	4	18	0	0	0	0
		8/1/1982	8/31/1982	22			1.23	113	508	4	18	7	33	0	0									0	0	3	13	0	0	0	0
		9/1/1982	9/30/1982	22			1.23	114	513	4	18	7	34	0	0									0	0	0	0	0	0	0	0
		10/1/1982	10/31/1982	21			1.23	115	492	4	17	8	32	0	0									0	0	0	0	0	0	0	0
		11/1/1982	11/30/1982	22			1.23	114	512	4	18	8	34	0	0									0	0	0	0	0	0	0	0
		12/1/1982	12/31/1982	23			1.23	115	541	4	18	7	32	0	0									0	0	0	0	0	0	0	0
		1/1/1983	1/31/1983	21			1.23	1	5	0	0	0	0	0	0									0	0	0	0	0	0	0	0
		2/1/1983	2/28/1983	20			1.23	1	5	0	0	0	0	0	0									0	0	0	0	0	0	0	0
		3/1/1983	3/31/1983	23			1.23	112	525	4	17	6	30	0	0									0	0	0	0	0	0	0	0
		4/1/1983	4/30/1983	21			1.23	113	483	3	15	6	25	0	0									0	0	0	0	0	0	0	0
		5/1/1983	5/30/1983	21			1.23	114	489	4	15	6	25	0	0									0	0	5	21	0	0	0	0
		6/1/1983	6/30/1983	22			1.23	106	477	3	15	6	26	0	0																
		7/1/1983	7/31/1983	21			1.23	117	501	4	16	7	28	0	0																
		8/1/1983	8/31/1983	23			1.23	118	553	4	18	7	32	0	0																
		9/1/1983	9/30/1983	22			1.23	118	530	4	18	7	32	0	0																
		10/1/1983	10/31/1983	21			1.23	118	506	4	17	7	31	0	0																
		11/1/1983	11/30/1983	22			1.23	119	533	4	17	7	31	0	0																
		12/1/1983	12/31/1983	22			1.23	121	543	4	17	7	31	0	0																
		1/1/1984	1/31/1984	22			1.23	133	597	5	21	8	38	0	0																
		2/1/1984	2/29/1984	21			1.23	180	774	6	25	11	45	0	0																
		3/1/1984	3/31/1984	22			1.23	183	823	6	29	12	54	0	0																
		4/1/1984	4/30/1984	21			1.23	151	650	6	24	10	44	0	0																
		5/1/1984	5/31/1984	23			1.23	153	721	5	26	10	48	0	0																
		6/1/1984	6/30/1984	21			1.23	182	781	7	28	12	53	0	0																
		7/1/1984	7/31/1984	22			1.23	156	703	6	27	11	50	0	0																
		8/1/1984	8/31/1984	23			1.23	170	801	5	23	9	42	0	0																
		9/1/1984	9/30/1984	20			1.23	181	740	6	25	11	46	0	0																
		10/1/1984	10/31/1984	23			1.23	174	816	6	26	9	44	0	0																
		11/1/1984	11/30/1984	22			1.23	174	781	5	24	9	40	0	0																
		12/1/1984	12/31/1984	21			1.23	173	743	5	22	8	36	0	0																
		1/1/1985	1/31/1985	23			1.23	176	828	5	24	8	39	0	0																
		2/1/1985	2/28/1985	20			1.23	4	15	0	0	0	1	0	0																
		3/1/1985	3/31/1985	21			1.23	9	37	0	1	0	2	0	0																
		4/1/1985	4/30/1985	22			1.23	8	36	0	1	0	2	0	0																
		5/1/1985	5/31/1985	23			1.23	5	22	0	0	0	2	0	0																
		6/1/1985	6/30/1985	20			1.23	5	21	0	0	0	2	0	0																
		7/1/1985	7/31/1985	23			1.23	6	26	0	0	0	2	0	0																
		8/1/1985	8/31/1985	22			1.23	6	27	0	0	1	2	0	0																
		9/1/1985	9/30/1985	21			1.23	7	28	0	1	1	3	0	0																
		10/1/1985	10/31/1985	23			1.23	7	33	0	1	1	3	0	0																
		11/1/1985	11/30/1985	21			1.23	8	33	0	1	1	3	0	0																
		12/1/1985	12/31/1985	22			1.23	8	37	0	1	1	3	0	0																
		1/1/1986	1/31/1986	23			1.23	9	42	0	1	1	4	0	0																
		2/1/1986	2/28/1986	20			1.23	9	38	0	1	1	3	0	0																
		3/1/1986	3/31/1986	21			1.23	12	52	0	1	1	4	0	0																
		4/1/1986	4/30/1986	22			1.23	11	49	0	1	1	4	0	0																
		5/1/1986	5/31/1986	22			1.23	12	52	0	1	1	4	0	0																
		6/1/1986	6/30/1986	21			1.23	12	53	0	1	1	4	0	0																
		7/1/1986	7/31/1986	23			1.23	13	61	0	1	1	4	0	0																
		8/1/1986	8/31/1986	21			1.23	14	59	0	1	1	4	0	0																
		9/1/1986	9/12/1986	10			1.23	15	30	0	1	1	2	0	0																
		9/28/1986	9/30/1986	2			1.23	15	6	0	0	1	0	0	0																
		10/1/1986	10/31/1986	23			1.23	15	72	0	1	1	5	0	0																
		11/1/1986	11/30/1986	20			1.23	16	66	0	1	1	4	0	0																
		12/1/1986	12/31/1986	23			1.23	17	80	0	2	1	5	0	0																
		1/1/1987	1/31/1987	22			1.23	18	80	0	2	1	5	0	0																
		2/1/1987	2/28/1987	20			1.23	18	76	0	2	1	4	0	0																
		3/1/1987	3/31/1987	22			1.23	0	0	0	0	0	0	0	0																

		4/1/1987	4/30/1987	22			1.23	0	0	0	0	0	0	0	0																
		5/1/1987	5/31/1987	21			1.23	0	0	0	0	0	0	0	0																
		6/1/1987	6/30/1987	22			1.23	0	0	0	0	0	0	0	0																
		7/1/1987	7/31/1987	23			1.23	0	0	0	0	0	0	0	0																
		8/1/1987	8/31/1987	21			1.23	0	0	0	0	0	0	0	0																
		9/1/1987	9/30/1987	22			1.23	0	0	0	0	0	0	0	0																
		10/1/1987	10/31/1987	22			1.23	0	0	0	0	0	0	0	0																
		11/1/1987	11/30/1987	21			1.23	0	0	0	0	0	0	0	0																
		12/1/1987	12/31/1987	23			1.23	0	0	0	0	0	0	0	0																
		Total µg/L-Months							**31,299**		**1,002**		**1,809**		**-**		**7,647**		**226,026**		**11,590**		**3,388**		**-**		**216**		**4**		**-**

Appendix 17

Cometto J. Davis (Non-Hodgkin's Lymphoma)

		Chart 1: 1L	Chart 2:ATSDR 6L/3 days; 3.1L/4 days marine in training; deposition informed work/residence exposure proportion	Chart 3: ATSDR Civilian estimate RME (3.09L); proportional work and resident consumption	Chart 4: ATSDR Civilian estimate CTE (1.23L); proportional work and resident consumption
	Cumulative ug/l-M	Cumulative consumption (total ug= days*concentration per L)	Cumulative consumption (total ug= days*concentration per deposition)	Cumulative consumption ATSDR RME (total ug= days*concentration per L)	Cumulative consumption ATSDR CTE (total ug= days*concentration per L)
Hadnot Point					
TCE	28,911	53,781	2,699,774	1,922,469	762,894
PCE	1,376	2,513	128,173	91,270	36,219
VC	2,165	3,580	201,182	143,260	56,850
BZ	472	1,916	43,642	31,077	12,332
Terawa Terrace					
TCE	221	916	8,681	6,180	2,453
PCE	6,828	28,338	268,521	191,180	77,714
VC	389	1,616	15,331	10,915	4,331
BZ	-	-	-	-	-
Sum all locations					
TCE	**29,132**	**54,697**	**2,708,455**	**1,928,649**	**765,347**
PCE	**8,204**	**30,852**	**396,693**	**282,450**	**113,933**
VC	**2,554**	**5,196**	**216,513**	**154,175**	**61,181**
BZ	**472**	**1,916**	**43,642**	**31,077**	**12,332**

Finished Water Concentration [ug/L]					Tarawa Terrace		Tarawa Terrace		Tarawa Terrace		Tarawa Terrace		Hadnot Point		Hadnot Point		Hadnot Point		Hadnot Point	
Exposure Period Start	Exposure Period End	Week Days	Weekend	Total Days	PCE	Cumulative consumption (total ug= days*concentration per L)	TCE	Cumulative consumption (total ug= days*concentration per L)	VC	Cumulative consumption (total ug= days*concentration per L)	BZ	Cumulative consumption (total ug= days*concentration per L)	PCE	Cumulative consumption (total ug= days*concentration per L)	TCE	Cumulative consumption (total ug= days*concentration per L)	VC	Cumulative consumption (total ug= days*concentration per L)	BZ	Cumulative consumption (total ug= days*concentration per L)
2/21/1979	2/28/1979	6	2	8									17.00		370.00		23.00		5.00	
3/1/1979	3/31/1979	22	9	31									17.00		378.00		24.00		5.00	
4/1/1979	4/30/1979	21	9	30									11.00		230.00		15.00		4.00	
5/1/1979	5/31/1979	23	8	31									13.00		274.00		18.00		3.00	
6/1/1979	6/30/1979	21	9	30									15.00		320.00		21.00		3.00	
7/1/1979	7/31/1979	22	9	31									17.00		361.00		23.00		3.00	
8/1/1979	8/31/1979	23	8	31									22.00		483.00		31.00		0.00	
9/1/1979	9/13/1979	9	4	13									17.00		358.00		23.00		3.00	
10/16/1979	10/31/1979	12	4	16									3.00		71.00		4.00		4.00	
11/1/1979	11/30/1979	22	8	30									23.00		507.00		33.00		6.00	
12/1/1979	12/31/1979	21	10	31									23.00		504.00		33.00		6.00	
1/1/1980	1/31/1980	23	8	31									12.00		264.00		17.00		7.00	
2/1/1980	2/29/1980	21	8	29									17.00		378.00		24.00		6.00	
3/1/1980	3/31/1980	21	10	31									20.00		433.00		28.00		6.00	
4/1/1980	4/2/1980			2									12.00		273.00		17.00		8.00	
4/3/1980	4/30/1980	22	6	28	123.90		4.01		7.39		0.00		12.00		273.00		17.00		8.00	
5/1/1980	5/31/1980	22	9	31	124.69		3.90		7.03		0.00		15.00		322.00		21.00		6.00	
6/1/1980	6/30/1980	21	9	30	125.83		3.91		7.03		0.00		18.00		394.00		26.00		6.00	
7/1/1980	7/31/1980	23	8	31	0.72		0.00		0.00		0.00		20.00		415.00		27.00		6.00	
8/1/1980	8/31/1980	21	10	31	0.75		0.00		0.00		0.00		23.00		496.00		33.00		7.00	
9/1/1980	9/19/1980	15	4	19	121.36		3.92		6.83		0.00		18.00		388.00		26.00		7.00	
10/6/1980	10/31/1980	20	6	26	121.72		3.63		5.84		0.00		3.00		88.00		5.00		8.00	
11/1/1980	11/30/1980	20	10	30	122.14		3.63		5.82		0.00		25.00		524.00		35.00		7.00	
12/1/1980	12/31/1980	23	8	31	122.95		3.62		5.81		0.00		26.00		541.00		37.00		6.00	
1/1/1981	1/31/1981	22	9	31	114.05		3.37		5.46		0.00		14.00		295.00		19.00		8.00	
2/1/1981	2/28/1981	20	8	28	114.39		3.41		5.55		0.00		18.00		387.00		26.00		7.00	
3/1/1981	3/31/1981	22	9	31	115.60		3.37		5.44		0.00		19.00		397.00		27.00		6.00	
4/1/1981	4/30/1981	22	8	30	116.55		3.46		5.69		0.00		12.00		266.00		17.00		9.00	
5/1/1981	5/31/1981	21	10	31	117.30		3.54		5.87		0.00		15.00		322.00		22.00		7.00	
6/1/1981	6/15/1981	11	4	15	118.36		3.60		6.03		0.00		18.00		380.00		26.00		7.00	
7/1/1981	7/31/1981	23	8	31	133.29		4.17		7.09		0.00		21.00		436.00		30.00		6.00	
8/1/1981	8/31/1981	21	10	31	134.31		4.33		7.50		0.00		30.00		631.00		44.00		8.00	
9/1/1981	9/30/1981	22	8	30	120.72		3.96		6.93		0.00		25.00		516.00		36.00		7.00	
10/1/1981	10/31/1981	22	9	31	121.04		3.95		6.90		0.00		5.00		115.00		8.00		5.00	
11/1/1981	11/30/1981	21	9	30	121.41		3.96		6.93		0.00		36.00		748.00		54.00		8.00	
12/1/1981	12/14/1981	10	4	14	121.81		3.98		6.97		0.00		37.00		753.00		54.00		8.00	
12/15/1981	12/18/1981	4	0	4	121.81		3.98		6.97		0.00									
12/29/1981	12/31/1981	3	0	3	121.81		3.98		6.97		0.00									
1/1/1982	1/31/1982	21	10	31	103.95		3.33		5.81		0.00									
2/1/1982	2/28/1982	20	8	28	105.86		3.43		6.09		0.00									
3/1/1982	3/31/1982	23	8	31	107.52		3.51		6.31		0.00									
4/1/1982	4/29/1982	21	8	29	108.83		3.60		6.55		0.00									
5/1/1982	5/31/1982	21	10	31	148.50		4.98		9.13		0.00		21.00		438.00		32.00		8.00	
6/1/1982	6/30/1982	22	8	30	110.78		3.86		7.26		0.00		25.00		505.00		38.00		7.00	
7/1/1982	7/31/1982	22	9	31	111.98		3.86		7.21		0.00		27.00		551.00		42.00		7.00	
8/1/1982	8/31/1982	22	9	31	113.07		3.91		7.34		0.00		33.00		670.00		51.00		9.00	
9/1/1982	9/22/1982	16	6	22	114.04		3.96		7.46		0.00		29.00		588.00		44.00		9.00	
12/31/1982	12/31/1982	1	0	1	115.16		3.80		6.88		0.00		35.00		721.00		56.00		8.00	
1/1/1983	1/31/1983	21	10	31	1.25		0.00		0.05		0.00		19.00		389.00		30.00		8.00	
2/1/1983	2/28/1983	20	8	28	1.29		0.01		0.07		0.00		26.00		526.00		42.00		7.00	
3/1/1983	3/31/1983	23	8	31	111.76		3.65		6.37		0.00		29.00		588.00		47.00		6.00	
4/1/1983	4/30/1983	21	9	30	112.66		3.43		5.77		0.00		18.00		372.00		29.00		10.00	
5/1/1983	5/31/1983	22	9	31	113.97		3.52		5.88		0.00		22.00		449.00		36.00		8.00	
6/1/1983	6/30/1983	22	8	30	106.10		3.33		5.70		0.00		27.00		546.00		45.00		7.00	
7/1/1983	7/31/1983	21	10	31	116.70		3.75		6.52		0.00		30.00		618.00		51.00		7.00	
8/1/1983	8/31/1983	23	8	31	117.72		3.87		6.87		0.00		32.00		659.00		54.00		9.00	
9/1/1983	9/30/1983	22	8	30	117.83		3.99		7.21		0.00		26.00		543.00		45.00		9.00	
10/1/1983	10/31/1983	21	10	31	117.97		3.96		7.12		0.00		5.00		134.00		9.00		10.00	
11/1/1983	11/30/1983	22	8	30	118.63		3.89		6.95		0.00		39.00		783.00		67.00		10.00	
12/1/1983	12/31/1983	22	9	31	120.78		3.89		6.96		0.00		34.00		688.00		59.00		9.00	
1/1/1984	1/31/1984	22	9	31	132.87		4.61		8.43		0.00		21.00		427.00		36.00		11.00	
2/1/1984	2/29/1984	21	8	29	180.39		5.94		10.56		0.00		27.00		560.00		47.00		8.00	
3/1/1984	3/31/1984	22	9	31	183.02		6.47		11.97		0.00		28.00		587.00		50.00		7.00	

4/1/1984	4/30/1984	21	9	30	151.46		5.52		10.26		0.00		18.00		400.00		33.00		12.00	
5/1/1984	5/31/1984	23	8	31	153.42		5.49		10.13		0.00		23.00		491.00		42.00		10.00	
6/1/1984	6/30/1984	21	9	30	182.13		6.60		12.28		0.00		22.00		471.00		41.00		7.00	
7/1/1984	7/31/1984	22	9	31	156.39		5.92		11.14		0.00		24.00		507.00		45.00		7.00	
8/1/1984	8/31/1984	23	8	31	170.47		4.81		8.94		0.00		26.00		539.00		48.00		8.00	
9/1/1984	9/30/1984	20	10	30	181.22		6.17		11.20		0.00		21.00		443.00		39.00		8.00	
10/1/1984	10/31/1984	23	8	31	173.73		5.56		9.39		0.00		3.00		94.00		6.00		8.00	
11/1/1984	11/30/1984	22	8	30	173.77		5.34		8.87		0.00		31.00		639.00		59.00		8.00	
12/1/1984	12/31/1984	21	10	31	173.18		5.18		8.46		0.00		2.00		43.00		4.00		2.00	
1/1/1985	1/31/1985	23	8	31	176.12		5.13		8.20		0.00		16.00		324.00		31.00		4.00	
2/1/1985	2/28/1985	20	8	28	3.64		0.05		0.22		0.00		0.00		0.00		0.00		3.00	
3/1/1985	3/31/1985	21	10	31	8.71		0.17		0.47		0.00		0.00		0.00		0.00		3.00	
4/1/1985	4/30/1985	22	8	30	8.09		0.16		0.49		0.00		0.00		0.00		0.00		4.00	
5/1/1985	5/31/1985	23	8	31	4.76		0.07		0.35		0.00		0.00		0.00		0.00		3.00	
6/1/1985	6/4/1985	2	2	4	5.14		0.08		0.41		0.00		0.00		0.00		0.00		3.00	
		1,519	**602**	**2,123**	**6,828**		**221**		**389**		**-**		**1,376**		**28,911**		**2,165**		**472**	

Proportion days per week **0.571429**
Proportion days per week **0.428571**

Chart 1: Days on base and cumulative contaminant exposure concentrations (1 L consumption per day)

Finished water Concentration [µg/L]					Tarawa Terrace		Tarawa Terrace		Tarawa Terrace		Tarawa Terrace		Hadnot Point		Hadnot Point		Hadnot Point		Hadnot Point		Liters
Exposure Period Start	Exposure Period End	Week Days	Weekend	Total Days	PCE	Cumulative consumption (total ug= days*concentration per L)	TCE	Cumulative consumption (total ug= days*concentration per L)	VC	Cumulative consumption (total ug= days*concentration per L)	BZ	Cumulative consumption (total ug= days*concentration per L)	PCE	Cumulative consumption (total ug= days*concentration per L)	TCE	Cumulative consumption (total ug= days*concentration per L)	VC	Cumulative consumption (total ug= days*concentration per L)	BZ	Cumulative consumption (total ug= days*concentration per L)	1
2/21/1979	2/28/1979	6	2	8									17.00	19.43	370.00	422.86	23.00	26.29	5.00	5.71	
3/1/1979	3/31/1979	22	9	31									17.00	75.29	378.00	1674.00	24.00	106.29	5.00	22.14	
4/1/1979	4/30/1979	21	9	30									11.00	47.14	230.00	985.71	15.00	64.29	4.00	17.14	
5/1/1979	5/31/1979	23	8	31									13.00	57.57	274.00	1213.43	18.00	79.71	3.00	13.29	
6/1/1979	6/30/1979	21	9	30									15.00	64.29	320.00	1371.43	21.00	90.00	3.00	12.86	
7/1/1979	7/31/1979	22	9	31									17.00	75.29	361.00	1598.71	23.00	101.86	3.00	13.29	
8/1/1979	8/31/1979	23	8	31									22.00	97.43	483.00	2139.00	31.00	137.29	0.00	0.00	
9/1/1979	9/13/1979	9	4	13									17.00	31.57	358.00	664.86	23.00	42.71	3.00	5.57	
10/16/1979	10/31/1979	12	4	16									3.00	6.86	71.00	162.29	4.00	9.14	4.00	9.14	
11/1/1979	11/30/1979	22	8	30									23.00	98.57	507.00	2172.86	33.00	141.43	6.00	25.71	
12/1/1979	12/31/1979	21	10	31									23.00	101.86	504.00	2232.00	33.00	146.14	6.00	26.57	
1/1/1980	1/31/1980	23	8	31									12.00	53.14	264.00	1169.14	17.00	75.29	7.00	31.00	
2/1/1980	2/29/1980	21	8	29									17.00	70.43	378.00	1566.00	24.00	99.43	6.00	24.86	
3/1/1980	3/31/1980	21	10	31									20.00	88.57	433.00	1917.57	28.00	124.00	6.00	26.57	
4/1/1980	4/2/1980			2									12.00	3.43	273.00	78.00	17.00	4.86	8.00	2.29	
4/3/1980	4/30/1980			28	123.90	495.60	4.01	16.04	7.39	29.56	0.00	0.00	12.00	48.00	273.00	1092.00	17.00	68.00	8.00	32.00	
5/1/1980	5/31/1980	22	9	31	124.69	552.20	3.90	17.27	7.03	31.13	0.00	0.00	15.00	66.43	322.00	1426.00	21.00	93.00	6.00	26.57	
6/1/1980	6/30/1980	21	9	30	125.83	539.27	3.91	16.76	7.03	30.13	0.00	0.00	18.00	77.14	394.00	1688.57	26.00	111.43	6.00	25.71	
7/1/1980	7/31/1980	23	8	31	0.72	3.19	0.00	0.00	0.00	0.00	0.00	0.00	20.00	88.57	415.00	1837.86	27.00	119.57	6.00	26.57	
8/1/1980	8/31/1980	21	10	31	0.75	3.32	0.00	0.00	0.00	0.00	0.00	0.00	23.00	101.86	496.00	2196.57	33.00	146.14	7.00	31.00	
9/1/1980	9/19/1980	15	4	19	121.36	329.41	3.92	10.64	6.83	18.54	0.00	0.00	18.00	48.86	388.00	1053.14	26.00	70.57	7.00	19.00	
10/6/1980	10/31/1980	20	6	26	121.72	452.10	3.63	13.48	5.84	21.69	0.00	0.00	3.00	11.14	88.00	326.86	5.00	18.57	8.00	29.71	
11/1/1980	11/30/1980	20	10	30	122.14	523.46	3.63	15.56	5.82	24.94	0.00	0.00	25.00	107.14	524.00	2245.71	35.00	150.00	7.00	30.00	
12/1/1980	12/31/1980	23	8	31	122.95	544.49	3.62	16.03	5.81	25.73	0.00	0.00	26.00	115.14	541.00	2395.86	37.00	163.86	6.00	26.57	
1/1/1981	1/31/1981	22	9	31	114.05	505.08	3.37	14.92	5.46	24.18	0.00	0.00	14.00	62.00	295.00	1306.43	19.00	84.14	8.00	35.43	
2/1/1981	2/28/1981	20	8	28	114.39	457.56	3.41	13.64	5.55	22.20	0.00	0.00	18.00	72.00	387.00	1548.00	26.00	104.00	7.00	28.00	
3/1/1981	3/31/1981	22	9	31	115.60	511.94	3.37	14.92	5.44	24.09	0.00	0.00	19.00	84.14	397.00	1758.14	27.00	119.57	6.00	26.57	
4/1/1981	4/30/1981	22	8	30	116.55	499.50	3.46	14.83	5.69	24.39	0.00	0.00	12.00	51.43	266.00	1140.00	17.00	72.86	9.00	38.57	
5/1/1981	5/31/1981	21	10	31	117.30	519.47	3.54	15.68	5.87	26.00	0.00	0.00	15.00	66.43	322.00	1426.00	22.00	97.43	7.00	31.00	
6/1/1981	6/15/1981	11	4	15	118.36	253.63	3.60	7.71	6.03	12.92	0.00	0.00	18.00	38.57	380.00	814.29	26.00	55.71	7.00	15.00	
7/1/1981	7/31/1981	23	8	31	133.29	590.28	4.17	18.47	7.09	31.40	0.00	0.00	21.00	93.00	436.00	1930.86	30.00	132.86	6.00	26.57	
8/1/1981	8/31/1981	21	10	31	134.31	594.80	4.33	19.18	7.50	33.21	0.00	0.00	30.00	132.86	631.00	2794.43	44.00	194.86	8.00	35.43	
9/1/1981	9/30/1981	22	8	30	120.72	517.37	3.96	16.97	6.93	29.70	0.00	0.00	25.00	107.14	516.00	2211.43	36.00	154.29	7.00	30.00	
10/1/1981	10/31/1981	22	9	31	121.04	536.03	3.95	17.49	6.90	30.56	0.00	0.00	5.00	22.14	115.00	509.29	8.00	35.43	5.00	22.14	
11/1/1981	11/30/1981	21	9	30	121.41	520.33	3.96	16.97	6.93	29.70	0.00	0.00	36.00	154.29	748.00	3205.71	54.00	231.43	8.00	34.29	
12/1/1981	12/14/1981	10	4	14	121.81	243.62	3.98	7.96	6.97	13.94	0.00	0.00	37.00	74.00	753.00	1506.00	54.00	108.00	8.00	16.00	
12/15/1981	12/18/1981	4	0	4	121.81	69.61	3.98	2.27	6.97	3.98	0.00	0.00								0.00	
12/29/1981	12/31/1981	3	0	3	121.81	52.20	3.98	1.71	6.97	2.99	0.00	0.00								0.00	
1/1/1982	1/31/1982	21	10	31	103.95	460.35	3.33	14.75	5.81	25.73	0.00	0.00								0.00	
2/1/1982	2/28/1982	20	8	28	105.86	423.44	3.43	13.72	6.09	24.36	0.00	0.00								0.00	
3/1/1982	3/31/1982	23	8	31	107.52	476.16	3.51	15.54	6.31	27.94	0.00	0.00								0.00	
4/1/1982	4/29/1982	21	8	29	108.83	450.87	3.60	14.91	6.55	27.14	0.00	0.00								0.00	
5/1/1982	5/31/1982	21	10	31	148.50	657.64	4.98	22.05	9.13	40.43	0.00	0.00	21.00	0.00	438.00	0.00	32.00	0.00	8.00	35.43	
6/1/1982	6/30/1982	22	8	30	110.78	474.77	3.86	16.54	7.26	31.11	0.00	0.00	25.00	0.00	505.00	0.00	38.00	0.00	7.00	30.00	
7/1/1982	7/31/1982	22	9	31	111.98	495.91	3.86	17.09	7.21	31.93	0.00	0.00	27.00	0.00	551.00	0.00	42.00	0.00	7.00	31.00	
8/1/1982	8/31/1982	22	9	31	113.07	500.74	3.91	17.32	7.34	32.51	0.00	0.00	33.00	0.00	670.00	0.00	51.00	0.00	9.00	39.86	
9/1/1982	9/22/1982	16	6	22	114.04	358.41	3.96	12.45	7.46	23.45	0.00	0.00	29.00	0.00	588.00	0.00	44.00	0.00	9.00	28.29	

12/31/1982	12/31/1982	1	0	1	115.16	16.45	3.80	0.54	6.88	0.98	0.00	0.00	35.00	0.00	721.00	0.00	56.00	0.00	8.00	1.14
1/1/1983	1/31/1983	21	10	31	1.25	5.54	0.00	0.00	0.05	0.22	0.00	0.00	19.00	0.00	389.00	0.00	30.00	0.00	8.00	35.43
2/1/1983	2/28/1983	20	8	28	1.29	5.16	0.01	0.04	0.07	0.28	0.00	0.00	26.00	0.00	526.00	0.00	42.00	0.00	7.00	28.00
3/1/1983	3/31/1983	23	8	31	111.76	494.94	3.65	16.16	6.37	28.21	0.00	0.00	29.00	0.00	588.00	0.00	47.00	0.00	6.00	26.57
4/1/1983	4/30/1983	21	9	30	112.66	482.83	3.43	14.70	5.77	24.73	0.00	0.00	18.00	0.00	372.00	0.00	29.00	0.00	10.00	42.86
5/1/1983	5/31/1983	22	9	31	113.97	504.72	3.52	15.59	5.88	26.04	0.00	0.00	22.00	0.00	449.00	0.00	36.00	0.00	8.00	35.43
6/1/1983	6/30/1983	22	8	30	106.10	454.71	3.33	14.27	5.70	24.43	0.00	0.00	27.00	0.00	546.00	0.00	45.00	0.00	7.00	30.00
7/1/1983	7/31/1983	21	10	31	116.70	516.81	3.75	16.61	6.52	28.87	0.00	0.00	30.00	0.00	618.00	0.00	51.00	0.00	7.00	31.00
8/1/1983	8/31/1983	23	8	31	117.72	521.33	3.87	17.14	6.87	30.42	0.00	0.00	32.00	0.00	659.00	0.00	54.00	0.00	9.00	39.86
9/1/1983	9/30/1983	22	8	30	117.83	504.99	3.99	17.10	7.21	30.90	0.00	0.00	26.00	0.00	543.00	0.00	45.00	0.00	9.00	38.57
10/1/1983	10/31/1983	21	10	31	117.97	522.44	3.96	17.54	7.12	31.53	0.00	0.00	5.00	0.00	134.00	0.00	9.00	0.00	10.00	44.29
11/1/1983	11/30/1983	22	8	30	118.63	508.41	3.89	16.67	6.95	29.79	0.00	0.00	39.00	0.00	783.00	0.00	67.00	0.00	10.00	42.86
12/1/1983	12/31/1983	22	9	31	120.78	534.88	3.89	17.23	6.96	30.82	0.00	0.00	34.00	0.00	688.00	0.00	59.00	0.00	9.00	39.86
1/1/1984	1/31/1984	22	9	31	132.87	588.42	4.61	20.42	8.43	37.33	0.00	0.00	21.00	0.00	427.00	0.00	36.00	0.00	11.00	48.71
2/1/1984	2/29/1984	21	8	29	180.39	747.33	5.94	24.61	10.56	43.75	0.00	0.00	27.00	0.00	560.00	0.00	47.00	0.00	8.00	33.14
3/1/1984	3/31/1984	22	9	31	183.02	810.52	6.47	28.65	11.97	53.01	0.00	0.00	28.00	0.00	587.00	0.00	50.00	0.00	7.00	31.00
4/1/1984	4/30/1984	21	9	30	151.46	649.11	5.52	23.66	10.26	43.97	0.00	0.00	18.00	0.00	400.00	0.00	33.00	0.00	12.00	51.43
5/1/1984	5/31/1984	23	8	31	153.42	679.43	5.49	24.31	10.13	44.86	0.00	0.00	23.00	0.00	491.00	0.00	42.00	0.00	10.00	44.29
6/1/1984	6/30/1984	21	9	30	182.13	780.56	6.60	28.29	12.28	52.63	0.00	0.00	22.00	0.00	471.00	0.00	41.00	0.00	7.00	30.00
7/1/1984	7/31/1984	22	9	31	156.39	692.58	5.92	26.22	11.14	49.33	0.00	0.00	24.00	0.00	507.00	0.00	45.00	0.00	7.00	31.00
8/1/1984	8/31/1984	23	8	31	170.47	754.94	4.81	21.30	8.94	39.59	0.00	0.00	26.00	0.00	539.00	0.00	48.00	0.00	8.00	35.43
9/1/1984	9/30/1984	20	10	30	181.22	776.66	6.17	26.44	11.20	48.00	0.00	0.00	21.00	0.00	443.00	0.00	39.00	0.00	8.00	34.29
10/1/1984	10/31/1984	23	8	31	173.73	769.38	5.56	24.62	9.39	41.58	0.00	0.00	3.00	0.00	94.00	0.00	6.00	0.00	8.00	35.43
11/1/1984	11/30/1984	22	8	30	173.77	744.73	5.34	22.89	8.87	38.01	0.00	0.00	31.00	0.00	639.00	0.00	59.00	0.00	8.00	34.29
12/1/1984	12/31/1984	21	10	31	173.18	766.94	5.18	22.94	8.46	37.47	0.00	0.00	2.00	0.00	43.00	0.00	4.00	0.00	2.00	8.86
1/1/1985	1/31/1985	23	8	31	176.12	779.96	5.13	22.72	8.20	36.31	0.00	0.00	16.00	0.00	324.00	0.00	31.00	0.00	4.00	17.71
2/1/1985	2/28/1985	20	8	28	3.64	14.56	0.05	0.20	0.22	0.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	12.00
3/1/1985	3/31/1985	21	10	31	8.71	38.57	0.17	0.75	0.47	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	13.29
4/1/1985	4/30/1985	22	8	30	8.09	34.67	0.16	0.69	0.49	2.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.00	17.14
5/1/1985	5/31/1985	23	8	31	4.76	21.08	0.07	0.31	0.35	1.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	13.29
6/1/1985	6/4/1985	2	2	4	5.14	2.94	0.08	0.05	0.41	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	1.71
		1,497	**596**	**2,123**		**28,338**		**916**		**1,616**		**-**		**2,513**		**53,781**		**3,580**		**1,916**

Chart 2: Days on base and cumulative contaminant exposure concentrations (ATSDR ingestion 6L/day 3 days per week and 3.1L per day 4 days per week); proportional work and resident consumption

Finished water Concentration [µg/L]					Tarawa Terrace		Tarawa Terrace		Tarawa Terrace		Tarawa Terrace		Hadnot Point		Hadnot Point		Hadnot Point		Hadnot Point		L	L
Exposure Period Start	**Exposure Period End**	**Week Days**	**Weekend**	**Total Days**	**PCE**	**Cumulative consumption (total ug= days*concentration per L)**	**TCE**	**Cumulative consumption (total ug= days*concentration per L)**	**VC**	**Cumulative consumption (total ug= days*concentration per L)**	**BZ**	**Cumulative consumption (total ug= days*concentration per L)**	**PCE**	**Cumulative consumption (total ug= days*concentration per L)**	**TCE**	**Cumulative consumption (total ug= days*concentration per L)**	**VC**	**Cumulative consumption (total ug= days*concentration per L)**	**BZ**	**Cumulative consumption (total ug= days*concentration per L)**	**6**	**3.1**
2/21/1979	2/28/1979	6	2	8									17.00	590.63	370.00	12854.86	23.00	799.09	5.00	173.71	days	days
3/1/1979	3/31/1979	22	9	31									17.00	2288.69	378.00	50889.60	24.00	3231.09	5.00	673.14	3	4
4/1/1979	4/30/1979	21	9	30									11.00	1433.14	230.00	29965.71	15.00	1954.29	4.00	521.14		
5/1/1979	5/31/1979	23	8	31									13.00	1750.17	274.00	36888.23	18.00	2423.31	3.00	403.89	Proportion days per week in field where all water consumed	**0.571428571**
6/1/1979	6/30/1979	21	9	30									15.00	1954.29	320.00	41691.43	21.00	2736.00	3.00	390.86	Proportion days per week in barracks where all water consumed	**0.428571429**
7/1/1979	7/31/1979	22	9	31									17.00	2288.69	361.00	48600.91	23.00	3096.46	3.00	403.89		
8/1/1979	8/31/1979	23	8	31									22.00	2961.83	483.00	65025.60	31.00	4173.49	0.00	0.00	proportion of water consumed in field on routine work days	0.33
9/1/1979	9/13/1979	9	4	13									17.00	959.77	358.00	20211.66	23.00	1298.51	3.00	169.37	proportion of water consumed at home on routine work days	0.667
10/16/1979	10/31/1979	12	4	16									3.00	208.46	71.00	4933.49	4.00	277.94	4.00	277.94		
11/1/1979	11/30/1979	22	8	30									23.00	2996.57	507.00	66054.86	33.00	4299.43	6.00	781.71		
12/1/1979	12/31/1979	21	10	31									23.00	3096.46	504.00	67852.80	33.00	4442.74	6.00	807.77		
1/1/1980	1/31/1980	23	8	31									12.00	1615.54	264.00	35541.94	17.00	2288.69	7.00	942.40		
2/1/1980	2/29/1980	21	8	29									17.00	2141.03	378.00	47606.40	24.00	3022.63	6.00	755.66		
3/1/1980	3/31/1980	21	10	31									20.00	2692.57	433.00	58294.17	28.00	3769.60	6.00	807.77		
4/1/1980	4/2/1980			2									12.00	104.23	273.00	2371.20	17.00	147.66	8.00	69.49		
4/3/1980	4/30/1980	22	6	28	123.90	4304.64	4.01	139.32	7.39	256.75	0.00	0.00	12.00	1042.08	273.00	23707.26	17.00	1476.28	8.00	694.72		
5/1/1980	5/31/1980	22	9	31	124.69	4796.24	3.90	150.01	7.03	270.41	0.00	0.00	15.00	1442.16	322.00	30958.38	21.00	2019.02	6.00	576.86		
6/1/1980	6/30/1980	21	9	30	125.83	4683.96	3.91	145.55	7.03	261.69	0.00	0.00	18.00	1674.77	394.00	36658.79	26.00	2419.11	6.00	558.26		
7/1/1980	7/31/1980	23	8	31	0.72	27.70	0.00	0.00	0.00	0.00	0.00	0.00	20.00	1922.88	415.00	39899.77	27.00	2595.89	6.00	576.86		
8/1/1980	8/31/1980	21	10	31	0.75	28.85	0.00	0.00	0.00	0.00	0.00	0.00	23.00	2211.31	496.00	47687.44	33.00	3172.75	7.00	673.01		
9/1/1980	9/19/1980	15	4	19	121.36	2861.12	3.92	92.42	6.83	161.02	0.00	0.00	18.00	1060.69	388.00	22863.67	26.00	1532.10	7.00	412.49		
10/6/1980	10/31/1980	20	6	26	121.72	3926.84	3.63	117.11	5.84	188.41	0.00	0.00	3.00	241.91	88.00	7096.05	5.00	403.18	8.00	645.10		
11/1/1980	11/30/1980	20	10	30	122.14	4546.60	3.63	135.12	5.82	216.65	0.00	0.00	25.00	2326.07	524.00	48754.33	35.00	3256.49	7.00	651.30		
12/1/1980	12/31/1980	23	8	31	122.95	4729.31	3.62	139.24	5.81	223.48	0.00	0.00	26.00	2499.74	541.00	52013.92	37.00	3557.33	6.00	576.86		

1/1/1981	1/31/1981	22	9	31	114.05	4386.97	3.37	129.63	5.46	210.02	0.00	0.00	14.00	1346.02	295.00	28362.49	19.00	1826.74	8.00	769.15
2/1/1981	2/28/1981	20	8	28	114.39	3974.24	3.41	118.47	5.55	192.82	0.00	0.00	18.00	1563.12	387.00	33606.99	26.00	2257.83	7.00	607.88
3/1/1981	3/31/1981	22	9	31	115.60	4446.59	3.37	129.63	5.44	209.25	0.00	0.00	19.00	1826.74	397.00	38169.18	27.00	2595.89	6.00	576.86
4/1/1981	4/30/1981	22	8	30	116.55	4338.51	3.46	128.80	5.69	211.81	0.00	0.00	12.00	1116.51	266.00	24749.33	17.00	1581.72	9.00	837.38
5/1/1981	5/31/1981	21	10	31	117.30	4511.98	3.54	136.17	5.87	225.79	0.00	0.00	15.00	1442.16	322.00	30958.38	22.00	2115.17	7.00	673.01
6/1/1981	6/15/1981	11	4	15	118.36	2202.95	3.60	67.00	6.03	112.23	0.00	0.00	18.00	837.38	380.00	17678.10	26.00	1209.55	7.00	325.65
7/1/1981	7/31/1981	23	8	31	133.29	5127.04	4.17	160.40	7.09	272.72	0.00	0.00	21.00	2019.02	436.00	41918.80	30.00	2884.32	6.00	576.86
8/1/1981	8/31/1981	21	10	31	134.31	5166.28	4.33	166.55	7.50	288.49	0.00	0.00	30.00	2884.32	631.00	60666.88	44.00	4230.34	8.00	769.15
9/1/1981	9/30/1981	22	8	30	120.72	4493.74	3.96	147.41	6.93	257.97	0.00	0.00	25.00	2326.07	516.00	48009.99	36.00	3349.53	7.00	651.30
10/1/1981	10/31/1981	22	9	31	121.04	4655.84	3.95	151.94	6.90	265.41	0.00	0.00	5.00	480.72	115.00	11056.56	8.00	769.15	5.00	480.72
11/1/1981	11/30/1981	21	9	30	121.41	4519.43	3.96	147.41	6.93	257.97	0.00	0.00	36.00	3349.53	748.00	69595.87	54.00	5024.30	8.00	744.34
12/1/1981	12/14/1981	10	4	14	121.81	2116.01	3.98	69.14	6.97	121.08	0.00	0.00	37.00	1606.54	753.00	32695.17	54.00	2344.67	8.00	347.36
12/15/1981	12/18/1981	4	0	4	121.81	1410.68	3.98	46.09	6.97	80.72	0.00	0.00								
12/29/1981	12/31/1981	3	0	3	121.81	1058.01	3.98	34.57	6.97	60.54	0.00	0.00								
1/1/1982	1/31/1982	21	10	31	103.95	9329.76	3.33	298.88	5.81	521.46	0.00	0.00								
2/1/1982	2/28/1982	20	8	28	105.86	8581.72	3.43	278.06	6.09	493.70	0.00	0.00								
3/1/1982	3/31/1982	23	8	31	107.52	9650.18	3.51	315.03	6.31	566.34	0.00	0.00								
4/1/1982	4/29/1982	21	8	29	108.83	9137.57	3.60	302.26	6.55	549.95	0.00	0.00								
5/1/1982	5/31/1982	21	10	31	148.50	5712.10	4.98	191.56	9.13	351.19	0.00	0.00	21.00	2019.02	438.00	42111.09	32.00	3076.61	8.00	769.15
6/1/1982	6/30/1982	22	8	30	110.78	4123.73	3.86	143.69	7.26	270.25	0.00	0.00	25.00	2326.07	505.00	46986.52	38.00	3535.62	7.00	651.30
7/1/1982	7/31/1982	22	9	31	111.98	4307.34	3.86	148.48	7.21	277.33	0.00	0.00	27.00	2595.89	551.00	52975.36	42.00	4038.05	7.00	673.01
8/1/1982	8/31/1982	22	9	31	113.07	4349.27	3.91	150.40	7.34	282.34	0.00	0.00	33.00	3172.75	670.00	64416.50	51.00	4903.35	9.00	865.30
9/1/1982	9/22/1982	16	6	22	114.04	3113.06	3.96	108.10	7.46	203.64	0.00	0.00	29.00	1978.71	588.00	40119.97	44.00	3002.17	9.00	614.08
12/31/1982	12/31/1982	1	0	1	115.16	142.89	3.80	4.72	6.88	8.54	0.00	0.00	35.00	108.55	721.00	2236.12	56.00	173.68	8.00	24.81
1/1/1983	1/31/1983	21	10	31	1.25	48.08	0.00	0.00	0.05	1.92	0.00	0.00	19.00	1826.74	389.00	37400.03	30.00	2884.32	8.00	769.15
2/1/1983	2/28/1983	20	8	28	1.29	44.82	0.01	0.35	0.07	2.43	0.00	0.00	26.00	2257.83	526.00	45677.72	42.00	3647.27	7.00	607.88
3/1/1983	3/31/1983	23	8	31	111.76	4298.88	3.65	140.40	6.37	245.02	0.00	0.00	29.00	2788.18	588.00	56532.69	47.00	4518.77	6.00	576.86
4/1/1983	4/30/1983	21	9	30	112.66	4193.71	3.43	127.68	5.77	214.79	0.00	0.00	18.00	1674.77	372.00	34611.85	29.00	2698.24	10.00	930.43
5/1/1983	5/31/1983	22	9	31	113.97	4383.89	3.52	135.40	5.88	226.18	0.00	0.00	22.00	2115.17	449.00	43168.67	36.00	3461.19	8.00	769.15
6/1/1983	6/30/1983	22	8	30	106.10	3949.52	3.33	123.96	5.70	212.18	0.00	0.00	27.00	2512.15	546.00	50801.27	45.00	4186.92	7.00	651.30
7/1/1983	7/31/1983	21	10	31	116.70	4488.90	3.75	144.24	6.52	250.79	0.00	0.00	30.00	2884.32	618.00	59417.01	51.00	4903.35	7.00	673.01
8/1/1983	8/31/1983	23	8	31	117.72	4528.14	3.87	148.86	6.87	264.26	0.00	0.00	32.00	3076.61	659.00	63358.92	54.00	5191.78	9.00	865.30
9/1/1983	9/30/1983	22	8	30	117.83	4386.16	3.99	148.53	7.21	268.39	0.00	0.00	26.00	2419.11	543.00	50522.14	45.00	4186.92	9.00	837.38
10/1/1983	10/31/1983	21	10	31	117.97	4537.75	3.96	152.32	7.12	273.87	0.00	0.00	5.00	480.72	134.00	12883.30	9.00	865.30	10.00	961.44
11/1/1983	11/30/1983	22	8	30	118.63	4415.94	3.89	144.80	6.95	258.71	0.00	0.00	39.00	3628.66	783.00	72852.37	67.00	6233.86	10.00	930.43
12/1/1983	12/31/1983	22	9	31	120.78	4645.84	3.89	149.63	6.96	267.72	0.00	0.00	34.00	3268.90	688.00	66147.09	59.00	5672.50	9.00	865.30
1/1/1984	1/31/1984	22	9	31	132.87	5110.89	4.61	177.33	8.43	324.26	0.00	0.00	21.00	2019.02	427.00	41053.50	36.00	3461.19	11.00	1057.58
2/1/1984	2/29/1984	21	8	29	180.39	6491.09	5.94	213.74	10.56	379.99	0.00	0.00	27.00	2428.41	560.00	50367.07	47.00	4227.24	8.00	719.53
3/1/1984	3/31/1984	22	9	31	183.02	7039.92	6.47	248.87	11.97	460.43	0.00	0.00	28.00	2692.03	587.00	56436.55	50.00	4807.20	7.00	673.01
4/1/1984	4/30/1984	21	9	30	151.46	5638.02	5.52	205.48	10.26	381.92	0.00	0.00	18.00	1674.77	400.00	37217.04	33.00	3070.41	12.00	1116.51
5/1/1984	5/31/1984	23	8	31	153.42	5901.35	5.49	211.17	10.13	389.65	0.00	0.00	23.00	2211.31	491.00	47206.72	42.00	4038.05	10.00	961.44
6/1/1984	6/30/1984	21	9	30	182.13	6779.70	6.60	245.68	12.28	457.12	0.00	0.00	22.00	2046.94	471.00	43823.07	41.00	3814.75	7.00	651.30
7/1/1984	7/31/1984	22	9	31	156.39	6015.59	5.92	227.71	11.14	428.50	0.00	0.00	24.00	2307.46	507.00	48745.02	45.00	4326.48	7.00	673.01
8/1/1984	8/31/1984	23	8	31	170.47	6557.18	4.81	185.02	8.94	343.88	0.00	0.00	26.00	2499.74	539.00	51821.63	48.00	4614.91	8.00	769.15
9/1/1984	9/30/1984	20	10	30	181.22	6745.82	6.17	229.68	11.20	416.91	0.00	0.00	21.00	1953.89	443.00	41217.88	39.00	3628.66	8.00	744.34
10/1/1984	10/31/1984	23	8	31	173.73	6682.58	5.56	213.87	9.39	361.19	0.00	0.00	3.00	288.43	94.00	9037.54	6.00	576.86	8.00	769.15
11/1/1984	11/30/1984	22	8	30	173.77	6468.50	5.34	198.78	8.87	330.18	0.00	0.00	31.00	2884.32	639.00	59454.23	59.00	5489.51	8.00	744.34
12/1/1984	12/31/1984	21	10	31	173.18	6661.42	5.18	199.25	8.46	325.42	0.00	0.00	2.00	192.29	43.00	4134.19	4.00	384.58	2.00	192.29
1/1/1985	1/31/1985	23	8	31	176.12	6774.51	5.13	197.33	8.20	315.42	0.00	0.00	16.00	1538.30	324.00	31150.67	31.00	2980.47	4.00	384.58
2/1/1985	2/28/1985	20	8	28	3.64	126.46	0.05	1.74	0.22	7.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	260.52
3/1/1985	3/31/1985	21	10	31	8.71	335.03	0.17	6.54	0.47	18.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	288.43
4/1/1985	4/30/1985	22	8	30	8.09	301.15	0.16	5.96	0.49	18.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.00	372.17
5/1/1985	5/31/1985	23	8	31	4.76	183.09	0.07	2.69	0.35	13.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	288.43
6/1/1985	6/4/1985	2	2	4	5.14	25.51	0.08	0.40	0.41	2.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	37.22
		1,519	**602**	**2,123**		**268,521**		**8,681**		**15,331**		**-**		**128,173**		**2,699,774**		**201,182**		**43,642**

Chart 3.4.1 SDR civilian estimate RME (3.092 L consumption per day); proportional work and resident consumption

Finished Water Concentration [ug/L]					Tarawa Terrace		Tarawa Terrace		Tarawa Terrace		Tarawa Terrace		Hadnot Point		Hadnot Point		Hadnot Point		Hadnot Point	
Exposure Period Start	**Exposure Period End**	**Week Days**	**Weekend**	**Total Days**	**PCE**	**Cumulative consumption (total ug= days*concentration per L)**	**TCE**	**Cumulative consumption (total ug= days*concentration per L)**	**VC**	**Cumulative consumption (total ug= days*concentration per L)**	**BZ**	**Cumulative consumption (total ug= days*concentration per L)**	**PCE**	**Cumulative consumption (total ug= days*concentration per L)**	**TCE**	**Cumulative consumption (total ug= days*concentration per L)**	**VC**	**Cumulative consumption (total ug= days*concentration per L)**	**BZ**	**Cumulative consumption (total ug= days*concentration per L)**	**L/day**
2/21/1979	2/28/1979	6	2	8									17.00	420.51	370.00	9152.32	23.00	568.93	5.00	123.68	**3.092**
3/1/1979	3/31/1979	22	9	31									17.00	1629.48	378.00	36232.06	24.00	2300.45	5.00	479.26	
4/1/1979	4/30/1979	21	9	30									11.00	1020.36	230.00	21334.80	15.00	1391.40	4.00	371.04	Proportion days per week in field where all water consumed **0.571428571**
5/1/1979	5/31/1979	23	8	31									13.00	1246.08	274.00	26263.45	18.00	1725.34	3.00	287.56	Proportion days per week in barracks where all water consumed **0.428571429**

6/1/1979	6/30/1979	21	9	30									15.00	1391.40	320.00	29683.20	21.00	1947.96	3.00	278.28
7/1/1979	7/31/1979	22	9	31									17.00	1629.48	361.00	34602.57	23.00	2204.60	3.00	287.56
8/1/1979	8/31/1979	23	8	31									22.00	2108.74	483.00	46296.52	31.00	2971.41	0.00	0.00
9/1/1979	9/13/1979	9	4	13									17.00	683.33	358.00	14390.17	23.00	924.51	3.00	120.59
10/16/1979	10/31/1979	12	4	16									3.00	148.42	71.00	3512.51	4.00	197.89	4.00	197.89
11/1/1979	11/30/1979	22	8	30									23.00	2133.48	507.00	47029.32	33.00	3061.08	6.00	556.56
12/1/1979	12/31/1979	21	10	31									23.00	2204.60	504.00	48309.41	33.00	3163.12	6.00	575.11
1/1/1980	1/31/1980	23	8	31									12.00	1150.22	264.00	25304.93	17.00	1629.48	7.00	670.96
2/1/1980	2/29/1980	21	8	29									17.00	1524.36	378.00	33894.50	24.00	2152.03	6.00	538.01
3/1/1980	3/31/1980	21	10	31									20.00	1917.04	433.00	41503.92	28.00	2683.86	6.00	575.11
4/1/1980	4/2/1980			2									12.00	74.21	273.00	1688.23	17.00	105.13	8.00	49.47
4/3/1980	4/30/1980	22	6	28	123.90	3064.79	4.01	99.19	7.39	182.80	0.00	0.00	12.00	742.08	273.00	16882.32	17.00	1051.28	8.00	494.72
5/1/1980	5/31/1980	22	9	31	124.69	3414.80	3.90	106.81	7.03	192.53	0.00	0.00	15.00	1026.99	322.00	22045.96	21.00	1437.78	6.00	410.79
6/1/1980	6/30/1980	21	9	30	125.83	3334.85	3.91	103.63	7.03	186.32	0.00	0.00	18.00	1192.63	394.00	26105.31	26.00	1722.69	6.00	397.54
7/1/1980	7/31/1980	23	8	31	0.72	19.72	0.00	0.00	0.00	0.00	0.00	0.00	20.00	1369.31	415.00	28413.27	27.00	1848.57	6.00	410.79
8/1/1980	8/31/1980	21	10	31	0.75	20.54	0.00	0.00	0.00	0.00	0.00	0.00	23.00	1574.71	496.00	33958.99	33.00	2259.37	7.00	479.26
9/1/1980	9/19/1980	15	4	19	121.36	2037.04	3.92	65.80	6.83	114.64	0.00	0.00	18.00	755.33	388.00	16281.59	26.00	1091.03	7.00	293.74
10/6/1980	10/31/1980	20	6	26	121.72	2795.80	3.63	83.38	5.84	134.14	0.00	0.00	3.00	172.27	88.00	5053.21	5.00	287.11	8.00	459.38
11/1/1980	11/30/1980	20	10	30	122.14	3237.06	3.63	96.21	5.82	154.25	0.00	0.00	25.00	1656.43	524.00	34718.74	35.00	2319.00	7.00	463.80
12/1/1980	12/31/1980	23	8	31	122.95	3367.14	3.62	99.14	5.81	159.11	0.00	0.00	26.00	1780.11	541.00	37039.95	37.00	2533.23	6.00	410.79
1/1/1981	1/31/1981	22	9	31	114.05	3123.41	3.37	92.29	5.46	149.53	0.00	0.00	14.00	958.52	295.00	20197.39	19.00	1300.85	8.00	547.73
2/1/1981	2/28/1981	20	8	28	114.39	2829.55	3.41	84.35	5.55	137.28	0.00	0.00	18.00	1113.12	387.00	23932.08	26.00	1607.84	7.00	432.88
3/1/1981	3/31/1981	22	9	31	115.60	3165.85	3.37	92.29	5.44	148.98	0.00	0.00	19.00	1300.85	397.00	27180.89	27.00	1848.57	6.00	410.79
4/1/1981	4/30/1981	22	8	30	116.55	3088.91	3.46	91.70	5.69	150.80	0.00	0.00	12.00	795.09	266.00	17624.40	17.00	1126.37	9.00	596.31
5/1/1981	5/31/1981	21	10	31	117.30	3212.41	3.54	96.95	5.87	160.76	0.00	0.00	15.00	1026.99	322.00	22045.96	22.00	1506.25	7.00	479.26
6/1/1981	6/15/1981	11	4	15	118.36	1568.44	3.60	47.71	6.03	79.91	0.00	0.00	18.00	596.31	380.00	12588.86	26.00	861.34	7.00	231.90
7/1/1981	7/31/1981	23	8	31	133.29	3650.32	4.17	114.20	7.09	194.17	0.00	0.00	21.00	1437.78	436.00	29851.05	30.00	2053.97	6.00	410.79
8/1/1981	8/31/1981	21	10	31	134.31	3678.25	4.33	118.58	7.50	205.40	0.00	0.00	30.00	2053.97	631.00	43201.87	44.00	3012.49	8.00	547.73
9/1/1981	9/30/1981	22	8	30	120.72	3199.42	3.96	104.95	6.93	183.66	0.00	0.00	25.00	1656.43	516.00	34188.69	36.00	2385.26	7.00	463.80
10/1/1981	10/31/1981	22	9	31	121.04	3314.84	3.95	108.18	6.90	188.97	0.00	0.00	5.00	342.33	115.00	7873.56	8.00	547.73	5.00	342.33
11/1/1981	11/30/1981	21	9	30	121.41	3217.71	3.96	104.95	6.93	183.66	0.00	0.00	36.00	2385.26	748.00	49560.34	54.00	3577.89	8.00	530.06
12/1/1981	12/14/1981	10	4	14	121.81	1506.55	3.98	49.22	6.97	86.20	0.00	0.00	37.00	1144.04	753.00	23282.76	54.00	1669.68	8.00	247.36
12/15/1981	12/18/1981	4	0	4	121.81	1004.36	3.98	32.82	6.97	57.47	0.00	0.00								
12/29/1981	12/31/1981	3	0	3	121.81	753.27	3.98	24.61	6.97	43.10	0.00	0.00								
1/1/1982	1/31/1982	21	10	31	103.95	6642.54	3.33	212.79	5.81	371.27	0.00	0.00								
2/1/1982	2/28/1982	20	8	28	105.86	6109.96	3.43	197.97	6.09	351.50	0.00	0.00								
3/1/1982	3/31/1982	23	8	31	107.52	6870.67	3.51	224.29	6.31	403.22	0.00	0.00								
4/1/1982	4/29/1982	21	8	29	108.83	6505.71	3.60	215.20	6.55	391.55	0.00	0.00								
5/1/1982	5/31/1982	21	10	31	148.50	4066.86	4.98	136.38	9.13	250.04	0.00	0.00	21.00	1437.78	438.00	29987.98	32.00	2190.90	8.00	547.73
6/1/1982	6/30/1982	22	8	30	110.78	2935.99	3.86	102.30	7.26	192.41	0.00	0.00	25.00	1656.43	505.00	33459.86	38.00	2517.77	7.00	463.80
7/1/1982	7/31/1982	22	9	31	111.98	3066.72	3.86	105.71	7.21	197.46	0.00	0.00	27.00	1848.57	551.00	37724.61	42.00	2875.56	7.00	479.26
8/1/1982	8/31/1982	22	9	31	113.07	3096.57	3.91	107.08	7.34	201.02	0.00	0.00	33.00	2259.37	670.00	45872.03	51.00	3491.75	9.00	616.19
9/1/1982	9/22/1982	16	6	22	114.04	2216.42	3.96	76.96	7.46	144.99	0.00	0.00	29.00	1409.07	588.00	28570.08	44.00	2137.90	9.00	437.30
12/31/1982	12/31/1982	1	0	1	115.16	101.74	3.80	3.36	6.88	6.08	0.00	0.00	35.00	77.30	721.00	1592.38	56.00	123.68	8.00	17.67
1/1/1983	1/31/1983	21	10	31	1.25	34.23	0.00	0.00	0.05	1.37	0.00	0.00	19.00	1300.85	389.00	26633.16	30.00	2053.97	8.00	547.73
2/1/1983	2/28/1983	20	8	28	1.29	31.91	0.01	0.25	0.07	1.73	0.00	0.00	26.00	1607.84	526.00	32527.84	42.00	2597.28	7.00	432.88
3/1/1983	3/31/1983	23	8	31	111.76	3060.69	3.65	99.96	6.37	174.45	0.00	0.00	29.00	1985.51	588.00	40257.84	47.00	3217.89	6.00	410.79
4/1/1983	4/30/1983	21	9	30	112.66	2985.81	3.43	90.90	5.77	152.92	0.00	0.00	18.00	1192.63	372.00	24647.66	29.00	1921.46	10.00	662.57
5/1/1983	5/31/1983	22	9	31	113.97	3121.21	3.52	96.40	5.88	161.03	0.00	0.00	22.00	1506.25	449.00	30741.11	36.00	2464.77	8.00	547.73
6/1/1983	6/30/1983	22	8	30	106.10	2811.95	3.33	88.25	5.70	151.07	0.00	0.00	27.00	1788.94	546.00	36176.40	45.00	2981.57	7.00	463.80
7/1/1983	7/31/1983	21	10	31	116.70	3195.98	3.75	102.70	6.52	178.56	0.00	0.00	30.00	2053.97	618.00	42311.81	51.00	3491.75	7.00	479.26
8/1/1983	8/31/1983	23	8	31	117.72	3223.91	3.87	105.98	6.87	188.14	0.00	0.00	32.00	2190.90	659.00	45118.91	54.00	3697.15	9.00	616.19
9/1/1983	9/30/1983	22	8	30	117.83	3122.83	3.99	105.75	7.21	191.09	0.00	0.00	26.00	1722.69	543.00	35977.63	45.00	2981.57	9.00	596.31
10/1/1983	10/31/1983	21	10	31	117.97	3230.76	3.96	108.45	7.12	194.99	0.00	0.00	5.00	342.33	134.00	9174.41	9.00	616.19	10.00	684.66
11/1/1983	11/30/1983	22	8	30	118.63	3144.03	3.89	103.10	6.95	184.19	0.00	0.00	39.00	2584.03	783.00	51879.34	67.00	4439.23	10.00	662.57
12/1/1983	12/31/1983	22	9	31	120.78	3307.72	3.89	106.53	6.96	190.61	0.00	0.00	34.00	2327.83	688.00	47104.41	59.00	4039.48	9.00	616.19
1/1/1984	1/31/1984	22	9	31	132.87	3638.82	4.61	126.25	8.43	230.87	0.00	0.00	21.00	1437.78	427.00	29234.86	36.00	2464.77	11.00	753.12
2/1/1984	2/29/1984	21	8	29	180.39	4621.49	5.94	152.18	10.56	270.54	0.00	0.00	27.00	1729.31	560.00	35867.20	47.00	3010.28	8.00	512.39
3/1/1984	3/31/1984	22	9	31	183.02	5012.24	6.47	177.19	11.97	327.81	0.00	0.00	28.00	1917.04	587.00	40189.37	50.00	3423.29	7.00	479.26
4/1/1984	4/30/1984	21	9	30	151.46	4014.12	5.52	146.30	10.26	271.92	0.00	0.00	18.00	1192.63	400.00	26502.86	33.00	2186.49	12.00	795.09
5/1/1984	5/31/1984	23	8	31	153.42	4201.60	5.49	150.35	10.13	277.42	0.00	0.00	23.00	1574.71	491.00	33616.67	42.00	2875.56	10.00	684.66
6/1/1984	6/30/1984	21	9	30	182.13	4826.97	6.60	174.92	12.28	325.46	0.00	0.00	22.00	1457.66	471.00	31207.11	41.00	2716.54	7.00	463.80
7/1/1984	7/31/1984	22	9	31	156.39	4282.94	5.92	162.13	11.14	305.08	0.00	0.00	24.00	1643.18	507.00	34712.12	45.00	3080.96	7.00	479.26
8/1/1984	8/31/1984	23	8	31	170.47	4668.54	4.81	131.73	8.94	244.83	0.00	0.00	26.00	1780.11	539.00	36903.02	48.00	3286.35	8.00	547.73
9/1/1984	9/30/1984	20	10	30	181.22	4802.85	6.17	163.52	11.20	296.83	0.00	0.00	21.00	1391.40	443.00	29351.91	39.00	2584.03	8.00	530.06
10/1/1984	10/31/1984	23	8	31	173.73	4757.82	5.56	152.27	9.39	257.16	0.00	0.00	3.00	205.40	94.00	6435.78	6.00	410.79	8.00	547.73
11/1/1984	11/30/1984	22	8	30	173.77	4605.40	5.34	141.53	8.87	235.08	0.00	0.00	31.00	2053.97	639.00	42338.31	59.00	3909.17	8.00	530.06
12/1/1984	12/31/1984	21	10	31	173.18	4742.76	5.18	141.86	8.46	231.69	0.00	0.00	2.00	136.93	43.00	2944.03	4.00	273.86	2.00	136.93
1/1/1985	1/31/1985	23	8	31	176.12	4823.27	5.13	140.49	8.20	224.57	0.00	0.00	16.00	1095.45	324.00	22182.89	31.00	2122.44	4.00	273.86
2/1/1985	2/28/1985	20	8	28	3.64	90.04	0.05	1.24	0.22	5.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	185.52
3/1/1985	3/31/1985	21	10	31	8.71	238.53	0.17	4.66	0.47	12.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	205.40
4/1/1985	4/30/1985	22	8	30	8.09	214.41	0.16	4.24	0.49	12.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.00	265.03
5/1/1985	5/31/1985	23	8	31	4.76	130.36	0.07	1.92	0.35	9.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	205.40
6/1/1985	6/4/1985	2	2	4	5.14	18.16	0.08	0.28	0.41	1.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	26.50

proportion of water consumed in field on routine work days	0.33
proportion of water consumed at home on routine work days	0.667

		1,519	602	2,123	191,180		6,180		10,915		-		91,270		1,922,469		143,260		31,077	

Chart 4: USEPA civilian estimate CTE (1.227 L consumption per day); proportional work and resident consumption

Finished Water Concentration [µg/L]

					Tarawa Terrace		Tarawa Terrace		Tarawa Terrace		Tarawa Terrace		Hadnot Point		Hadnot Point		Hadnot Point		Hadnot Point		
Exposure Period Start	Exposure Period End	Week Days	Weekend	Total Days	PCE	Cumulative consumption (total ug= days*concentration per L)	TCE	Cumulative consumption (total ug= days*concentration per L)	VC	Cumulative consumption (total ug= days*concentration per L)	BZ	Cumulative consumption (total ug= days*concentration per L)	PCE	Cumulative consumption (total ug= days*concentration per L)	TCE	Cumulative consumption (total ug= days*concentration per L)	VC	Cumulative consumption (total ug= days*concentration per L)	BZ	Cumulative consumption (total ug= days*concentration per L)	L/day
2/21/1979	2/28/1979	6	2	8									17.00	166.87	370.00	3631.92	23.00	225.77	5.00	49.08	**1.227**
3/1/1979	3/31/1979	22	9	31									17.00	646.63	378.00	14377.99	24.00	912.89	5.00	190.19	
4/1/1979	4/30/1979	21	9	30									11.00	404.91	230.00	8466.30	15.00	552.15	4.00	147.24	Proportion days per week in field where all water consumed **0.571428571**
5/1/1979	5/31/1979	23	8	31									13.00	494.48	274.00	10422.14	18.00	684.67	3.00	114.11	Proportion days per week in barracks where all water consumed **0.428571429**
6/1/1979	6/30/1979	21	9	30									15.00	552.15	320.00	11779.20	21.00	773.01	3.00	110.43	
7/1/1979	7/31/1979	22	9	31									17.00	646.63	361.00	13731.36	23.00	874.85	3.00	114.11	
8/1/1979	8/31/1979	23	8	31									22.00	836.81	483.00	18371.87	31.00	1179.15	0.00	0.00	
9/1/1979	9/13/1979	9	4	13									17.00	271.17	358.00	5710.46	23.00	366.87	3.00	47.85	
10/16/1979	10/31/1979	12	4	16									3.00	58.90	71.00	1393.87	4.00	78.53	4.00	78.53	
11/1/1979	11/30/1979	22	8	30									23.00	846.63	507.00	18662.67	33.00	1214.73	6.00	220.86	
12/1/1979	12/31/1979	21	10	31									23.00	874.85	504.00	19170.65	33.00	1255.22	6.00	228.22	
1/1/1980	1/31/1980	23	8	31									12.00	456.44	264.00	10041.77	17.00	646.63	7.00	266.26	
2/1/1980	2/29/1980	21	8	29									17.00	604.91	378.00	13450.37	24.00	853.99	6.00	213.50	
3/1/1980	3/31/1980	21	10	31									20.00	760.74	433.00	16470.02	28.00	1065.04	6.00	228.22	
4/1/1980	4/2/1980			2									12.00	29.45	273.00	669.94	17.00	41.72	8.00	19.63	
4/3/1980	4/30/1980	22	6	28	123.90	3064.79	4.01	39.36	7.39	72.54	0.00	0.00	12.00	294.48	273.00	6699.42	17.00	417.18	8.00	196.32	
5/1/1980	5/31/1980	22	9	31	124.69	1355.10	3.90	42.38	7.03	76.40	0.00	0.00	15.00	407.54	322.00	8748.51	21.00	570.56	6.00	163.02	
6/1/1980	6/30/1980	21	9	30	125.83	1323.37	3.91	41.12	7.03	73.94	0.00	0.00	18.00	473.27	394.00	10359.39	26.00	683.61	6.00	157.76	
7/1/1980	7/31/1980	23	8	31	0.72	7.82	0.00	0.00	0.00	0.00	0.00	0.00	20.00	543.39	415.00	11275.25	27.00	733.57	6.00	163.02	
8/1/1980	8/31/1980	21	10	31	0.75	8.15	0.00	0.00	0.00	0.00	0.00	0.00	23.00	624.89	496.00	13475.97	33.00	896.59	7.00	190.19	
9/1/1980	9/19/1980	15	4	19	121.36	808.36	3.92	26.11	6.83	45.49	0.00	0.00	18.00	299.74	388.00	6461.03	26.00	432.96	7.00	116.57	
10/6/1980	10/31/1980	20	6	26	121.72	1109.46	3.63	33.09	5.84	53.23	0.00	0.00	3.00	68.36	88.00	2005.27	5.00	113.94	8.00	182.30	
11/1/1980	11/30/1980	20	10	30	122.14	1284.56	3.63	38.18	5.82	61.21	0.00	0.00	25.00	657.32	524.00	13777.46	35.00	920.25	7.00	184.05	
12/1/1980	12/31/1980	23	8	31	122.95	1336.19	3.62	39.34	5.81	63.14	0.00	0.00	26.00	706.40	541.00	14698.58	37.00	1005.26	6.00	163.02	
1/1/1981	1/31/1981	22	9	31	114.05	1239.46	3.37	36.62	5.46	59.34	0.00	0.00	14.00	380.37	295.00	8014.94	19.00	516.22	8.00	217.35	
2/1/1981	2/28/1981	20	8	28	114.39	1122.85	3.41	33.47	5.55	54.48	0.00	0.00	18.00	441.72	387.00	9496.98	26.00	638.04	7.00	171.78	
3/1/1981	3/31/1981	22	9	31	115.60	1256.31	3.37	36.62	5.44	59.12	0.00	0.00	19.00	516.22	397.00	10786.21	27.00	733.57	6.00	163.02	
4/1/1981	4/30/1981	22	8	30	116.55	1225.77	3.46	36.39	5.69	59.84	0.00	0.00	12.00	315.51	266.00	6993.90	17.00	446.98	9.00	236.64	
5/1/1981	5/31/1981	21	10	31	117.30	1274.78	3.54	38.47	5.87	63.79	0.00	0.00	15.00	407.54	322.00	8748.51	22.00	597.72	7.00	190.19	
6/1/1981	6/15/1981	11	4	15	118.36	622.40	3.60	18.93	6.03	31.71	0.00	0.00	18.00	236.64	380.00	4995.64	26.00	341.81	7.00	92.03	
7/1/1981	7/31/1981	23	8	31	133.29	1448.56	4.17	45.32	7.09	77.05	0.00	0.00	21.00	570.56	436.00	11845.81	30.00	815.08	6.00	163.02	
8/1/1981	8/31/1981	21	10	31	134.31	1459.64	4.33	47.06	7.50	81.51	0.00	0.00	30.00	815.08	631.00	17143.82	44.00	1195.45	8.00	217.35	
9/1/1981	9/30/1981	22	8	30	120.72	1269.63	3.96	41.65	6.93	72.88	0.00	0.00	25.00	657.32	516.00	13567.11	36.00	946.54	7.00	184.05	
10/1/1981	10/31/1981	22	9	31	121.04	1315.43	3.95	42.93	6.90	74.99	0.00	0.00	5.00	135.85	115.00	3124.47	8.00	217.35	5.00	135.85	
11/1/1981	11/30/1981	21	9	30	121.41	1276.89	3.96	41.65	6.93	72.88	0.00	0.00	36.00	946.54	748.00	19667.06	54.00	1419.81	8.00	210.34	
12/1/1981	12/14/1981	10	4	14	121.81	597.84	3.98	19.53	6.97	34.21	0.00	0.00	37.00	453.99	753.00	9239.31	54.00	662.58	8.00	98.16	
12/15/1981	12/18/1981	4	0	4	121.81	398.56	3.98	13.02	6.97	22.81	0.00	0.00									
12/29/1981	12/31/1981	3	0	3	121.81	298.92	3.98	9.77	6.97	17.10	0.00	0.00									
1/1/1982	1/31/1982	21	10	31	103.95	2635.96	3.33	84.44	5.81	147.33	0.00	0.00									
2/1/1982	2/28/1982	20	8	28	105.86	2424.62	3.43	78.56	6.09	139.49	0.00	0.00									
3/1/1982	3/31/1982	23	8	31	107.52	2726.49	3.51	89.01	6.31	160.01	0.00	0.00									
4/1/1982	4/29/1982	21	8	29	108.83	2581.67	3.60	85.40	6.55	155.38	0.00	0.00									
5/1/1982	5/31/1982	21	10	31	148.50	1613.86	4.98	54.12	9.13	99.22	0.00	0.00	21.00	570.56	438.00	11900.15	32.00	869.42	8.00	217.35	
6/1/1982	6/30/1982	22	8	30	110.78	1165.09	3.86	40.60	7.26	76.35	0.00	0.00	25.00	657.32	505.00	13277.89	38.00	999.13	7.00	184.05	
7/1/1982	7/31/1982	22	9	31	111.98	1216.97	3.86	41.95	7.21	78.36	0.00	0.00	27.00	733.57	551.00	14970.28	42.00	1141.11	7.00	190.19	
8/1/1982	8/31/1982	22	9	31	113.07	1228.81	3.91	42.49	7.34	79.77	0.00	0.00	33.00	896.59	670.00	18203.42	51.00	1385.63	9.00	244.52	
9/1/1982	9/22/1982	16	6	22	114.04	879.54	3.96	30.54	7.46	57.54	0.00	0.00	29.00	559.16	588.00	11337.48	44.00	848.38	9.00	173.53	
12/31/1982	12/31/1982	1	0	1	115.16	40.37	3.80	1.33	6.88	2.41	0.00	0.00	35.00	30.68	721.00	631.91	56.00	49.08	8.00	7.01	
1/1/1983	1/31/1983	21	10	31	1.25	13.58	0.00	0.00	0.05	0.54	0.00	0.00	19.00	516.22	389.00	10568.85	30.00	815.08	8.00	217.35	
2/1/1983	2/28/1983	20	8	28	1.29	12.66	0.01	0.10	0.07	0.69	0.00	0.00	26.00	638.04	526.00	12908.04	42.00	1030.68	7.00	171.78	
3/1/1983	3/31/1983	23	8	31	111.76	1214.58	3.65	39.67	6.37	69.23	0.00	0.00	29.00	787.91	588.00	15975.54	47.00	1276.96	6.00	163.02	
4/1/1983	4/30/1983	21	9	30	112.66	1184.86	3.43	36.07	5.77	60.68	0.00	0.00	18.00	473.27	372.00	9780.94	29.00	762.49	10.00	262.93	
5/1/1983	5/31/1983	22	9	31	113.97	1238.59	3.52	38.25	5.88	63.90	0.00	0.00	22.00	597.72	449.00	12199.01	36.00	978.09	8.00	217.35	
6/1/1983	6/30/1983	22	8	30	106.10	1115.87	3.33	35.02	5.70	59.95	0.00	0.00	27.00	709.91	546.00	14355.90	45.00	1183.18	7.00	184.05	
7/1/1983	7/31/1983	21	10	31	116.70	1268.26	3.75	40.75	6.52	70.86	0.00	0.00	30.00	815.08	618.00	16790.62	51.00	1385.63	7.00	190.19	
8/1/1983	8/31/1983	23	8	31	117.72	1279.35	3.87	42.06	6.87	74.66	0.00	0.00	32.00	869.42	659.00	17904.56	54.00	1467.14	9.00	244.52	
9/1/1983	9/30/1983	22	8	30	117.83	1239.23	3.99	41.96	7.21	75.83	0.00	0.00	26.00	683.61	543.00	14277.02	45.00	1183.18	9.00	236.64	
10/1/1983	10/31/1983	21	10	31	117.97	1282.06	3.96	43.04	7.12	77.38	0.00	0.00	5.00	135.85	134.00	3640.68	9.00	244.52	10.00	271.69	
11/1/1983	11/30/1983	22	8	30	118.63	1247.65	3.89	40.91	6.95	73.09	0.00	0.00	39.00	1025.42	783.00	20587.31	67.00	1761.62	10.00	262.93	
12/1/1983	12/31/1983	22	9	31	120.78	1312.60	3.89	42.28	6.96	75.64	0.00	0.00	34.00	923.76	688.00	18692.47	59.00	1602.99	9.00	244.52	
1/1/1984	1/31/1984	22	9	31	132.87	1443.99	4.61	50.10	8.43	91.61	0.00	0.00	21.00	570.56	427.00	11601.29	36.00	978.09	11.00	298.86	

2/1/1984	2/29/1984	21	8	29	180.39	1833.95	5.94	60.39	10.56	107.36	0.00	0.00	27.00	686.24	560.00	14233.20	47.00	1194.57	8.00	203.33
3/1/1984	3/31/1984	22	9	31	183.02	1989.01	6.47	70.31	11.97	130.09	0.00	0.00	28.00	760.74	587.00	15948.37	50.00	1358.46	7.00	190.19
4/1/1984	4/30/1984	21	9	30	151.46	1592.93	5.52	58.05	10.26	107.91	0.00	0.00	18.00	473.27	400.00	10517.14	33.00	867.66	12.00	315.51
5/1/1984	5/31/1984	23	8	31	153.42	1667.32	5.49	59.66	10.13	110.09	0.00	0.00	23.00	624.89	491.00	13340.12	42.00	1141.11	10.00	271.69
6/1/1984	6/30/1984	21	9	30	182.13	1915.49	6.60	69.41	12.28	129.15	0.00	0.00	22.00	578.44	471.00	12383.94	41.00	1078.01	7.00	184.05
7/1/1984	7/31/1984	22	9	31	156.39	1699.60	5.92	64.34	11.14	121.07	0.00	0.00	24.00	652.06	507.00	13774.83	45.00	1222.62	7.00	190.19
8/1/1984	8/31/1984	23	8	31	170.47	1852.62	4.81	52.27	8.94	97.16	0.00	0.00	26.00	706.40	539.00	14644.25	48.00	1304.13	8.00	217.35
9/1/1984	9/30/1984	20	10	30	181.22	1905.92	6.17	64.89	11.20	117.79	0.00	0.00	21.00	552.15	443.00	11647.74	39.00	1025.42	8.00	210.34
10/1/1984	10/31/1984	23	8	31	173.73	1888.05	5.56	60.42	9.39	102.05	0.00	0.00	3.00	81.51	94.00	2553.91	6.00	163.02	8.00	217.35
11/1/1984	11/30/1984	22	8	30	173.77	1827.56	5.34	56.16	8.87	93.29	0.00	0.00	31.00	815.08	639.00	16801.14	59.00	1551.28	8.00	210.34
12/1/1984	12/31/1984	21	10	31	173.18	1882.07	5.18	56.29	8.46	91.94	0.00	0.00	2.00	54.34	43.00	1168.28	4.00	108.68	2.00	54.34
1/1/1985	1/31/1985	23	8	31	176.12	1914.02	5.13	55.75	8.20	89.12	0.00	0.00	16.00	434.71	324.00	8802.85	31.00	842.25	4.00	108.68
2/1/1985	2/28/1985	20	8	28	3.64	35.73	0.05	0.49	0.22	2.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	73.62
3/1/1985	3/31/1985	21	10	31	8.71	94.66	0.17	1.85	0.47	5.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	81.51
4/1/1985	4/30/1985	22	8	30	8.09	85.08	0.16	1.68	0.49	5.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.00	105.17
5/1/1985	5/31/1985	23	8	31	4.76	51.73	0.07	0.76	0.35	3.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	81.51
6/1/1985	6/4/1985	2	2	4	5.14	7.21	0.08	0.11	0.41	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	10.52
		1,519	**602**	**2,123**		**77,714**		**2,453**		**4,331**		**-**		**36,219**		**762,894**		**56,850**		**12,332**

Appendix 18

Scott Richard Keller (Non-Hodgkin's Lymphoma)

Summed variable totals

		Chart 1: 1L	Chart 2: ATSDR	Chart 3: Deposition	Chart 4 Deposition/FM
	Cumulative ug/l-M	Cumulative consumption (total ug= days*concentration per L)	Cumulative consumption (total ug= days*concentration per ATSDR exposure assumptions)	Cumulative consumption (total ug= days*concentration per deposition exposure assumptions)	Cumulative consumption (total ug= days*concentration per deposition/FM exposure assumptions)
BZ	64	1,394	6,053	11,249	9,096

Finished Water Concentration [µg/L]

					Hadnot Point
Exposure Period Start	Exposure Period End	Week Days	Weekend	Total Days	Benzene
11/30/1985	11/30/1985	0	1	1	3
12/1/1985	12/31/1985	22	9	31	3
1/1/1986	1/31/1986	23	8	31	3
2/1/1986	2/28/1986	20	8	28	3
3/1/1986	3/7/1986	5	2	7	3
3/19/1986	3/31/1986	9	4	13	3
4/1/1986	4/30/1986	22	8	30	4
5/1/1986	5/31/1986	22	9	31	3
6/1/1986	6/30/1986	21	9	30	3
7/1/1986	7/31/1986	23	8	31	3
8/1/1986	8/12/1986	8	4	12	3
9/20/1986	9/30/1986	7	4	11	3
10/1/1986	10/31/1986	23	8	31	3
11/1/1986	11/30/1986	20	10	30	3
12/1/1986	12/4/1986	4	0	4	3
12/17/1986	12/31/1986	11	4	15	3
1/1/1987	1/20/1987	14	6	20	2
7/16/1987	7/31/1987	12	4	16	3
8/1/1987	8/31/1987	21	10	31	3
9/1/1987	9/30/1987	22	8	30	3
10/1/1987	10/31/1987	22	9	31	3
11/1/1987	11/30/1987	21	9	30	2
12/1/1987	12/31/1987	23	8	31	2
		375	**150**	**525**	**67**

Total µg/L-Months					**64**

Chart 1: Days on base and cumulative contaminant exposure concentrations (1 L consumption per day)

TOTAL 1/L-Day	1524
TOTAL 1/L-Weekday	1089
TOTAL 1/L-Weekend	435
Check	0.00

Exposure Period Start	Exposure Period End	Week Days	Weekend	Total Days	BZ (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	1L concentration summaries
11/30/1985	11/30/1985	0	1	1	3	3	1
12/1/1985	12/31/1985	22	9	31	3	93	
1/1/1986	1/31/1986	23	8	31	3	93	
2/1/1986	2/28/1986	20	8	28	3	84	
3/1/1986	3/7/1986	5	2	7	3	21	
3/19/1986	3/31/1986	9	4	13	3	39	
4/1/1986	4/30/1986	22	8	30	4	120	
5/1/1986	5/31/1986	22	9	31	3	93	
6/1/1986	6/30/1986	21	9	30	3	90	
7/1/1986	7/31/1986	23	8	31	3	93	
8/1/1986	8/12/1986	8	4	12	3	36	
9/20/1986	9/30/1986	7	4	11	3	14	
10/1/1986	10/31/1986	23	8	31	3	40	
11/1/1986	11/30/1986	20	10	30	3	39	
12/1/1986	12/4/1986	4	0	4	3	5	
12/17/1986	12/31/1986	11	4	15	3	45	
1/1/1987	1/20/1987	14	6	20	2	40	
7/16/1987	7/31/1987	12	4	16	3	48	
8/1/1987	8/31/1987	21	10	31	3	93	
9/1/1987	9/30/1987	22	8	30	3	90	
10/1/1987	10/31/1987	22	9	31	3	93	
11/1/1987	11/30/1987	21	9	30	2	60	
12/1/1987	12/31/1987	23	8	31	2	62	
				525	**64**	**1,394**	

days/week at Geiger	days/week at CLJ
4	3
0.00	

Chart 2: Days on base and cumulative contaminant exposure concentrations (ATSDR ingestion 6L/day 3 days per week and 3L per day 4 days per week)

Exposure Period Start	Exposure Period End	Week Days	Weekend	Total Days	BZ (ug/l-M)	Cumulative consumption (total ug= days*concentration per ATSDR exposure assumptions)	ATSDR ingestion 6L/day 3 days per week	ATSDR ingestion 3.1L per day 4 days per week	
11/30/1985	11/30/1985	0	1	1	3	13	**6**	**3.1**	
12/1/1985	12/31/1985	22	9	31	3	404	**3**	**4**	**Days per week**
1/1/1986	1/31/1986	23	8	31	3	404			
2/1/1986	2/28/1986	20	8	28	3	365			
3/1/1986	3/7/1986	5	2	7	3	91			
3/19/1986	3/31/1986	9	4	13	3	169			
4/1/1986	4/30/1986	22	8	30	4	521			
5/1/1986	5/31/1986	22	9	31	3	404			
6/1/1986	6/30/1986	21	9	30	3	391			
7/1/1986	7/31/1986	23	8	31	3	404			
8/1/1986	8/12/1986	8	4	12	3	156			
9/20/1986	9/30/1986	7	4	11	3	61	**days/week at Geiger**	**days/week at CLJ**	
10/1/1986	10/31/1986	23	8	31	3	173	4	3	
11/1/1986	11/30/1986	20	10	30	3	168	0.00		
12/1/1986	12/4/1986	4	0	4	3	22			
12/17/1986	12/31/1986	11	4	15	3	195			
1/1/1987	1/20/1987	14	6	20	2	174			
7/16/1987	7/31/1987	12	4	16	3	208			
8/1/1987	8/31/1987	21	10	31	3	404			
9/1/1987	9/30/1987	22	8	30	3	391			
10/1/1987	10/31/1987	22	9	31	3	404			
11/1/1987	11/30/1987	21	9	30	2	261			
12/1/1987	12/31/1987	23	8	31	2	269			
				525	**64**	**6,053**			

Chart 3: Days on base and cumulative contaminant exposure concentrations- deposition informed activities

Total Days	BZ (ug/l-M)	Cumulative consumption (total ug= days*concentration per deposition exposure assumptions)
1	3	24
31	3	759
31	3	759
28	3	685
7	3	171
13	3	318
30	4	979
31	3	759
30	3	734
31	3	759
12	3	294
11	3	98
31	3	277
30	3	268
4	3	36
15	3	367
20	2	326
16	3	392
31	3	759
30	3	734
31	3	759
30	2	489
31	2	506
525	**64**	**11,249**

3 days per week training heavy activity from deposition	4 days per week training light activity from deposition	days per week	days per week
9.77897	**6.93991**	**3**	**4**

Exposure estimate 3 days per week in field training:

time	product	number	volume (ounces ea)	total volume (L) per day	
daily	kool-aid		234.67	6.94	234.67
field	canteens	3	32	2.84	
			Sum	**9.78**	0.03

Exposure estimate 4 days per week not in field training:

time	product	number	volume (ounces ea)	total volume per day
daily	kool-aid		234.67	6.94
			Sum	**6.94**

days/week at Geiger	days/week at CLJ
4	3
0.00	

Chart 4: Days on base and cumulative contaminant exposure concentrations- deposition informed activities; FM 1957-1983 moderate day averages

Total Days	BZ (ug/l-M)	Cumulative consumption (total ug= days*concentration per deposition exposure assumptions)
1	3	20
31	3	616
31	3	616
28	3	557
7	3	139
13	3	258
30	4	795
31	3	616
30	3	596
31	3	616
12	3	239
11	3	74
31	3	207
30	3	201
4	3	27
15	3	298
20	2	265
16	3	318
31	3	616
30	3	596
31	3	616
30	2	398
31	2	411
525	**64**	**9,096**

3 days per week training heavy activity from deposition; FM average 1957-1983; moderate day: desert/tropical <80oF	4 days per week training light activity from deposition; FM average 1957-1983; moderate day: desert/tropical <80oF
8.52	**5.21**

days per week	days per week
3	**4**

days/week at Geiger	days/week at CLJ
4	3
0.00	

Appendix 19

Robert Arnold Kidd Sr. (Non-Hodgkin's Lymphoma)

Summed variable totals

		Chart 1: 1L	Chart 2: ATSDR	Chart 3: Deposition	Chart 4 Deposition/FM
	Cumulative ug/l-M	Cumulative consumption (total ug= days*concentration per L)	Cumulative consumption (total ug= days*concentration per ATSDR exposure assumptions)	Cumulative consumption (total ug= days*concentration per deposition exposure assumptions)	Cumulative consumption (total ug= days*concentration per deposition/FM exposure assumptions)
TCE	10,150	250,253	1,072,513	663,963	1,658,105
PCE	490	12,090	51,814	32,077	80,105
VC	751	18,530	79,414	49,163	122,774
BZ	162	3,963	16,984	10,514	26,258

Finished Water Concentration [µg/L]

					Hadnot Point	Hadnot Point	Hadnot Point	Hadnot Point
Exposure Period Start	**Exposure Period End**	**Week Days**	**Weekend**	**Total Days**	**TCE**	**PCE**	**VC**	**BZ**
2/26/1981	2/28/1981	2	1	3	387	18	26	7
3/1/1981	3/17/1981	12	5	17	397	19	27	6
4/5/1981	4/13/1981	6	3	9	266	12	17	9
5/1/1981	5/31/1981	21	10	31	322	15	22	7
6/1/1981	6/30/1981	22	8	30	380	18	26	7
7/1/1981	7/31/1981	23	8	31	436	21	30	6
8/1/1981	8/31/1981	21	10	31	631	30	44	8
2/23/1982	2/28/1982	4	2	6	529	26	38	7
3/1/1982	3/31/1982	23	8	31	556	27	41	6
4/1/1982	4/30/1982	22	8	30	376	18	27	10
5/1/1982	5/19/1982	13	6	19	438	21	32	8
5/28/1982	5/31/1982	2	2	4	438	21	32	8
6/1/1982	6/30/1982	22	8	30	505	25	38	7
7/1/1982	7/31/1982	22	9	31	551	27	42	7
8/1/1982	8/31/1982	22	9	31	670	33	51	9
9/1/1982	9/30/1982	22	8	30	588	29	44	9
10/1/1982	10/31/1982	21	10	31	138	6	9	9
11/1/1982	11/30/1982	22	8	30	706	34	55	10
12/1/1982	12/31/1982	23	8	31	721	35	56	8
1/1/1983	1/26/1983	18	8	26	389	19	30	8
6/27/1983	6/30/1983	4	0	4	546	27	45	7
7/1/1983	7/21/1983	15	6	21	618	30	51	7
		362	**145**	**507**	**10588**	**511**	**783**	**170**

Total ug/L-Months					10150	490	751	162

Chart 1: Days on base and cumulative contaminant exposure concentrations (1 L consumption per day)

TOTAL 1/L-Day	250,253	12,090	18,530	3963.00
TOTAL 1/L-Weekday	179,658	8,683	13,317	2827.00
TOTAL 1/L-Weekend	70,595	3,407	5,213	1136.00
Check	0.00	0.00	0.00	0.00

Exposure Period Start	Exposure Period End	Week Days	Weekend	Total Days	TCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	PCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	VC (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	BZ (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	1L concentration summaries
2/26/1981	2/28/1981	2	1	3	387	1,161	18	54	26	78	7	21	1
3/1/1981	3/17/1981	12	5	17	397	6,749	19	323	27	459	6	102	
4/[illegible]/1981	4/13/1981	6	3	9	266	2,394	12	108	17	153	9	81	
5/[illegible]/1981	5/31/1981	21	10	31	322	9,982	15	465	22	682	7	217	
6/[illegible]/1981	6/30/1981	22	8	30	380	11,400	18	540	26	780	7	210	
7/[illegible]/1981	7/31/1981	23	8	31	436	13,516	21	651	30	930	6	186	
8/[illegible]/1981	8/31/1981	21	10	31	631	19,561	30	930	44	1364	8	248	
2/[illegible]/1982	2/28/1982	4	2	6	529	3,174	26	156	38	228	7	42	
3/1/1982	3/31/1982	23	8	31	556	17,236	27	837	41	1271	6	186	
4/[illegible]/1982	4/30/1982	22	8	30	376	11,280	18	540	27	810	10	300	
5/[illegible]/1982	5/19/1982	13	6	19	438	8,322	21	399	32	608	8	152	
5/20/1982	5/31/1982	2	2	4	438	1,752	21	84	32	128	8	32	
6/1/1982	6/30/1982	22	8	30	505	15,150	25	750	38	1140	7	210	
7/1/1982	7/31/1982	22	9	31	551	17,081	27	837	42	1302	7	217	
8/[illegible]/1982	8/31/1982	22	9	31	670	20,770	33	1023	51	1581	9	279	
9/[illegible]/1982	9/30/1982	22	8	30	588	17,640	29	870	44	1320	9	270	
10/[illegible]/1982	10/31/1982	21	10	31	138	4,278	6	186	9	279	9	279	
11/[illegible]/1982	11/30/1982	22	8	30	706	21,180	34	1020	55	1650	10	300	
12/[illegible]/1982	12/31/1982	23	8	31	721	22,351	35	1085	56	1736	8	248	
1/[illegible]/1983	1/26/1983	18	8	26	389	10,114	19	494	30	780	8	208	
6/[illegible]/1983	6/30/1983	4	0	4	546	2,184	27	108	45	180	7	28	
7/[illegible]/1983	7/21/1983	15	6	21	618	12,978	30	630	51	1071	7	147	
						250,253		**12,090**		**18,530**		**3,963**	

Chart 2: Days on base and cumulative contaminant exposure concentrations (ATSDR ingestion 6L/day 3 days per week and 3L per day 4 days per week)

Exposure Period Start	Exposure Period End	Week Days	Weekend	Total Days	TCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per ATSDR exposure assumptions)	PCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per ATSDR exposure assumptions)	VC (ug/l-M)	Cumulative consumption (total ug= days*concentration per ATSDR exposure assumptions)	BZ (ug/l-M)	Cumulative consumption (total ug= days*concentration per ATSDR exposure assumptions)	ATSDR ingestion 6L/day 3 days per week	ATSDR ingestion 3L per day 4 days per week	
2/2/1981	2/28/1981	2	1	3	387	4,976	18	231	26	334	7	90	6	3	
3/1/1981	3/17/1981	12	5	17	397	28,924	19	1,384	27	1,967	6	437	3	4	days per week
4/5/1981	4/13/1981	6	3	9	266	10,260	12	463	17	656	9	347			
5/1/1981	5/31/1981	21	10	31	322	42,780	15	1,993	22	2,923	7	930			
6/1/1981	6/30/1981	22	8	30	380	48,857	18	2,314	26	3,343	7	900			
7/1/1981	7/31/1981	23	8	31	436	57,926	21	2,790	30	3,986	6	797			
8/1/1981	8/31/1981	21	10	31	631	83,833	30	3,986	44	5,846	8	1,063			
2/23/1982	2/28/1982	4	2	6	529	13,603	26	669	38	977	7	180			
3/1/1982	3/31/1982	23	8	31	556	73,869	27	3,587	41	5,447	6	797			
4/1/1982	4/30/1982	22	8	30	376	48,343	18	2,314	27	3,471	10	1,286			
5/1/1982	5/19/1982	13	6	19	438	35,666	21	1,710	32	2,606	8	651			
5/20/1982	5/31/1982	2	2	4	438	7,509	21	360	32	549	8	137			
6/1/1982	6/30/1982	22	8	30	505	64,929	25	3,214	38	4,886	7	900			
7/1/1982	7/31/1982	22	9	31	551	73,204	27	3,587	42	5,580	7	930			
8/1/1982	8/31/1982	22	9	31	670	89,014	33	4,384	51	6,776	9	1,196			
9/1/1982	9/30/1982	22	8	30	588	75,600	29	3,729	44	5,657	9	1,157			
10/1/1982	10/31/1982	21	10	31	138	18,334	6	797	9	1,196	9	1,196			
11/1/1982	11/30/1982	22	8	30	706	90,771	34	4,371	55	7,071	10	1,286			
12/1/1982	12/31/1982	23	8	31	721	95,790	35	4,650	56	7,440	8	1,063			
1/1/1983	1/26/1983	18	8	26	389	43,346	19	2,117	30	3,343	8	891			
6/27/1983	6/30/1983	4	0	4	546	9,360	27	463	45	771	7	120			
7/1/1983	7/21/1983	15	6	21	618	55,620	30	2,700	51	4,590	7	630			
						1,072,513		**51,814**		**79,414**		**16,984**			

Chart 3: Days on base and cumulative contaminant exposure concentrations- deposition informed activities

Total days (w/drk)	TCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per deposition exposure assumptions)	PCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per deposition exposure assumptions)	VC (ug/l-M)	Cumulative consumption (total ug= days*concentration per deposition exposure assumptions)	BZ (ug/l-M)	Cumulative consumption (total ug= days*concentration per deposition exposure assumptions)
	387	3080	18	143	26	207	7	56
	397	17906	19	857	27	1218	6	271
7	266	6352	12	287	17	406	9	215
11	322	26484	15	1234	22	1809	7	576
31	380	30246	18	1433	26	2069	7	557
31	436	35860	21	1727	30	2467	6	493
31	631	51899	30	2467	44	3619	8	658
9	529	8421	26	414	38	605	7	111
31	556	45730	27	2221	41	3372	6	493
23	376	29928	18	1433	27	2149	10	796
31	438	22080	21	1059	32	1613	8	403
	438	4648	21	223	32	340	8	85
31	505	40195	25	1990	38	3025	7	557
31	551	45319	27	2221	42	3454	7	576
31	670	55106	33	2714	51	4195	9	740
31	588	46802	29	2308	44	3502	9	716
31	138	11350	6	493	9	740	9	740
31	706	56194	34	2706	55	4378	10	796
31	721	59301	35	2879	56	4606	8	658
26	389	26834	19	1311	30	2069	8	552
4	546	5795	27	287	45	478	7	74
21	618	34433	30	1671	51	2842	7	390
		663,963		**32,077**		**49,163**		**10,514**

L/day consumed; 3 days per week training heavy activity from deposition	L/day consumed; 4 days per week training light activity from deposition	
5.08664	0.82806	
3	4	days/week

Exposure estimate 3 days per week in field training:

time	product	number	volume (ounces ea)	total volume (L) per day	
daily*	coffee	1	10.00	0.30	
	misc fountain water, brush teeth, throughout day, bedtime	1.5	12.00	0.53	
field	canteens	4.5	32	4.26	0.03
			Sum	**5.09**	

Exposure estimate 4 days per week not in field training:

time	product	number	volume (ounces ea)	total volume per day
daily*	coffee	1	10.00	0.30
	misc fountain water, brush teeth, throughout day, bedtime	1.5	12.00	0.53
			Sum	**0.83**

Chart 4: Days on base and cumulative contaminant exposure concentrations- deposition informed activities; FM 1957-1983 moderate day averages

Total Days (work)	TCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per deposition exposure assumptions)	PCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per deposition exposure assumptions)	VC (ug/l-M)	Cumulative consumption (total ug= days*concentration per deposition exposure assumptions)	BZ (ug/l-M)	Cumulative consumption (total ug= days*concentration per deposition exposure assumptions)	3 days per week training heavy activity from deposition; FM average 1957-1983; moderate day: desert/tropical <80oF	4 days per week training light activity from deposition; FM average 1957-1983; moderate day: desert/tropical <80oF	
									8.52	5.21	
3	387	7692	18	358	26	517	7	139	3	4	days/week
17	397	44717	19	2140	27	3041	6	676			
9	266	15862	12	716	17	1014	9	537			
31	322	66138	15	3081	22	4519	7	1438			
30	380	75533	18	3578	26	5168	7	1391			
31	436	89553	21	4313	30	6162	6	1232			
31	631	129606	30	6162	44	9037	8	1643			
6	529	21030	26	1034	38	1511	7	278			
31	556	114201	27	5546	41	8421	6	1232			
30	376	74738	18	3578	27	5367	10	1988			
19	438	55139	21	2644	32	4028	8	1007			
4	438	11608	21	557	32	848	8	212			
30	505	100380	25	4969	38	7553	7	1391			
31	551	113174	27	5546	42	8627	7	1438			
31	670	137616	33	6778	51	10475	9	1849			
30	588	116878	29	5764	44	8746	9	1789			
31	138	28345	6	1232	9	1849	9	1849			
30	706	140333	34	6758	55	10932	10	1988			
31	721	148091	35	7189	56	11502	8	1643			
26	389	67012	19	3273	30	5168	8	1378			
4	546	14471	27	716	45	1193	7	186			
21	618	85989	30	4174	51	7096	7	974			
		1,658,105		**80,105**		**122,774**		**26,258**			

Appendix 20

Jose Antonio Vidana (Non-Hodgkin's Lymphoma)

Summed variable totals

		Chart 1: 1L	Chart 2: ATSDR civilian worker RME (3.092 L consumption per day)	Chart 3: ATSDR civilian worker CTE (1.227 L consumption per day)	Chart 4: ATSDR civilian worker marine in training (4.334 L consumption per day)	Chart 5: FM 1957-1983 light activity (desk work, guard/KP duty), moderate day, desert/tropical <80oF (5.2049 L consumption per day)
	Cumulative ug/l-M	Cumulative consumption (total ug= days*concentration per L)	Cumulative consumption (total ug= days*concentration per ATSDR exposure assumptions)	Cumulative consumption (total ug= days*concentration per ATSDR exposure assumptions)	Cumulative consumption (total ug= days*concentration per ATSDR exposure assumptions)	Cumulative consumption (total ug= days*concentration per deposition/FM exposure assumptions)
TCE	995	3,881	12,001	4,762	16,822	20,202
PCE	49	191	591	235	829	995
VC	81	316	978	388	1,371	1,647
BZ	15	57	178	71	249	299

Finished Water Concentration [µg/L]					Hadnot Point	Hadnot Point	Hadnot Point	Hadnot Point	Hadnot Point
Start	Exposure Period End	Week Days	Weekend	Total Days	TCE	PCE	*1,2-tDCE*	VC	BZ
5/8/1983	5/31/1983	17	7	24	449	22	243	36	8
6/1/1983	6/30/1983	22	8	30	546	27	298	45	7
		39	**15**	**54**	**995**	**49**	**541**	**81**	**15**
	TOTAL 1/L-Day				27,156	1,338	14,772	2,214	402.00
	TOTAL 1/L-Weekday				19,645	968	10,687	1,602	290.00
	TOTAL 1/L-Weekend				7,511	370	4,085	612	112.00
	Check				0.00	0.00	0.00	0.00	0.00
Total ug/L-Months					995	49	541	81	15

0.667

Chart 1: Days on base and cumulative contaminant exposure concentrations (1 L consumption per day)

Exposure Period Start	Exposure Period End	Week Days	Weekend	Total Days	TCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	PCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	VC (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	BZ (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	1L concentration summaries
5/8/1983	5/31/1983	17	7	24	449	1,540	22	75	36	123	8	27	**1**
6/1/1983	6/30/1983	22	8	30	546	2,341	27	116	45	193	7	30	Visits to HP per week
						3,881		**191**		**316**		**57**	**1.5**

Chart 2: ATSDR civilian worker RME (3.092 L consumption per day)

Exposure Period Start	Exposure Period End	Week Days	Weekend	Total Days	TCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	PCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	VC (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	BZ (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	ATSDR civilian worker RME
5/8/1983	5/31/1983	17	7	24	449	4,762	22	233	36	382	8	85	**3.092**
6/1/1983	6/30/1983	22	8	30	546	7,239	27	358	45	597	7	93	Visits to HP per week
						12,001		**591**		**978**		**178**	**1.5**

Chart 3: ATSDR civilian worker CTE (1.227 L consumption per day)

Exposure Period Start	Exposure Period End	Week Days	Weekend	Total Days	TCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	PCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	VC (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	BZ (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	ATSDR civilian worker CTE
5/8/1983	5/31/1983	17	7	24	449	1,890	22	93	36	152	8	34	**1.227**
6/1/1983	6/30/1983	22	8	30	546	2,873	27	142	45	237	7	37	Visits to HP per week
						4,762		**235**		**388**		**71**	**1.5**

Chart 4: ATSDR civilian worker marine in training (4.334 L consumption per day)

Exposure Period Start	Exposure Period End	Week Days	Weekend	Total Days	TCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	PCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	VC (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	BZ (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	ATSDR civilian worker marine in training
5/8/1983	5/31/1983	17	7	24	449	6,675	22	327	36	535	8	119	**4.334**
6/1/1983	6/30/1983	22	8	30	546	10,147	27	502	45	836	7	130	Visits to HP per week
						16,822		**829**		**1,371**		**249**	**1.5**

Chart 5: FM 1957-1983 light activity (desk work, guard/KP duty), moderate day, desert/tropical <80oF (5.2049 L consumption per day)

Exposure Period Start	Exposure Period End	Week Days	Weekend	Total Days	TCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	PCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	VC (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	BZ (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	FM 1957-1983 light activity (desk work, guard/KP duty), moderate day, desert/tropical <80oF
5/8/1983	5/31/1983	17	7	24	449	8,017	22	393	36	643	8	143	**5.2049**
6/1/1983	6/30/1983	22	8	30	546	12,186	27	603	45	1,004	7	156	Visits to HP per week
						20,202		**995**		**1,647**		**299**	**1.5**

Appendix 21

Gary Layne McElhiney (Parkinson's Disease)

Exposure Dates	Start	Stop	Total Days HP work	Total days HP residential	Total Days TT Housing location	HP TCE (ug/L-M)	TT TCE (ug/L-M)	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	HP PCE (ug/L-M)	TT PCE (ug/L-M)	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	HPVC (ug/L-M)	TT VC (ug/L-M)	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	HPBZ (ug/L-M)	TTBZ (ug/L-M)	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	Ingestion (L)	Ingestion exposure notes	
7/29/72-7/31/72	7/29/1972	7/31/1972	3	3	0	16					0					0					2							
8/1/72-8/31/72	8/1/1972	8/31/1972	31	31	0	20					0					1					3							
9/1/72-9/30/72	9/1/1972	9/30/1972	30	30	0	18					0					1					2							
10/1/1972 - 10/31/72	10/1/1972	10/31/1972	31	31	0	18					0					0					3							
11/1/72 - 11/30/72	11/1/1972	11/30/1972	30	30	0	25					0					3					3							
12/1/72 - 12/31/72	12/1/1972	12/31/1972	31	31	0	32					0					3					2							
1/1/73 - 1/31/73	1/1/1973	1/31/1973	31	31	0	27					0					2					3							
2/1/73 - 2/28/73	2/1/1973	2/28/1973	28	28	0	34					0					3					2							
3/1/73 - 3/31/73	3/1/1973	3/31/1973	31	31	0	38					0					3					2							
4/1/73 - 4/30/73	4/1/1973	4/30/1973	30	30	0	38					0					2					3							
5/1/73 - 5/31/73	5/1/1973	5/31/1973	31	31	0	43					0					3					3							
6/1/73 - 6/30/73	6/1/1973	6/30/1973	30	30	0	57					0					4					3							
7/1/73 - 7/30/73	7/1/1973	7/30/1973	30	30	0	73					1					5					3							
1/31/1974	1/31/1974	1/31/1974	1	1	0	106					1					5					3							
2/1/74 - 2/28/74	2/1/1974	2/28/1974	28	28	0	152					2					7					2							
3/1/74-3/31/74	3/1/1974	3/31/1974	31	31	0	163					3					7					2							
4/1/74-4/30/74	4/1/1974	4/30/1974	30	30	0	116					2					5					3							
5/1/74-5/31/74	5/1/1974	5/31/1974	31	31	0	142					2					6					2							
6/1/74-6/30/74	6/1/1974	6/30/1974	30	30	0	179					3					8					2							
7/1/74-7/31/74	7/1/1974	7/31/1974	31	31	0	309					4					9					2							
8/1/74-8/31/74	8/1/1974	8/31/1974	31	31	0	274					5					12					3							
9/1/74 - 9/30/74	9/1/1974	9/30/1974	30	30	0	217					4					9					3							
12/10/1975-12/31/75	12/10/1975	12/31/1975	0	0	22		1.78					44.74					2.89					0.00						
1/1/76-1/31/76	1/1/1976	1/31/1976	0	0	31		2.06					51.53					3.34					0.00						
2/1/76 - 2/18/76	2/1/1976	2/18/1976	0	0	18		2.15					53.43					3.60					0.00						
2/28/1976	2/28/1976	2/28/1976	0	0	1		2.20					53.43					3.60					0.00						
3/1/76-3/31/76	3/1/1976	3/31/1976	0	0	31		2.20					54.44					3.72					0.00						
4/1/76-4/30/76	4/1/1976	4/30/1976	0	0	30		2.24					55.38					3.85					0.00						
5/1/76-5/31/76	5/1/1976	5/31/1976	0	0	31		2.28					56.21					3.98					0.00						
6/1/76-6/30/76	6/1/1976	6/30/1976	0	0	30		2.32					57.07					4.10					0.00						
7/1/76-7/31/76	7/1/1976	7/31/1976	0	0	31		2.35					57.86					4.22					0.00						
8/1/76-8/31/76	8/1/1976	8/31/1976	0	0	31		2.39					58.73					4.34					0.00						
9/1/76-9/30/76	9/1/1976	9/30/1976	0	0	30		2.43					59.58					4.46					0.00						
10/1/76-10/31/76	10/1/1976	10/31/1976	0	0	31		2.46					60.41					4.57					0.00						
11/1/76-11/30/76	11/1/1976	11/30/1976	0	0	30		2.50					61.28					4.68					0.00						
12/1/76-12/31/76	12/1/1976	12/31/1976	0	0	31		2.53					62.10					4.79					0.00						
1/1/77 - 1/12/77	1/1/1977	1/12/1977	0	0	12		2.57					62.97					4.89					0.00						
1/22/77 - 1/31/77	1/22/1977	1/31/1977	0	0	10		2.57					62.97					4.89					0.00						
2/1/77-2/28/77	2/1/1977	2/28/1977	0	0	28		2.62					63.98					5.01					0.00						
3/1/77-3/31/77	3/1/1977	3/31/1977	0	0	31		2.65					64.81					5.11					0.00						
4/1/77 - 4/22/77	4/1/1977	4/22/1977	0	0	22		2.70					65.83					5.22					0.00						
5/1/77 - 5/31/77	5/1/1977	5/31/1977	0	0	29		2.74					66.76					5.32					0.00						
6/1/77-6/30/77	6/1/1977	6/30/1977	0	0	30		2.78					67.76					5.43					0.00						
7/1/77-7/31/77	7/1/1977	7/31/1977	0	0	31		2.82					68.70					5.53					0.00						
8/1/77-8/31/77	8/1/1977	8/31/1977	0	0	31		2.86					69.70					5.63					0.00						
9/1/77-9/30/77	9/1/1977	9/30/1977	0	0	30		2.90					70.70					5.72					0.00						
10/1/77 - 10/20/77	10/1/1977	10/20/1977	0	0	20		2.94					71.65					5.82					0.00						
8/29/1986	8/29/1986	8/31/1986	3	3	0	0.00					0.00					0.00					3.00							
9/1/86-9/30/86	9/1/1986	9/30/1986	30	30	0	0.00					0.00					0.00					3.00							
10/1/86-10/31/86	10/1/1986	10/31/1986	31	31	0	0.00					0.00					0.00					3.00							
11/1/86-11/30/86	11/1/1986	11/30/1986	30	30	0	0.00					0.00					0.00					3.00							
12/1/86-12/31/86	12/1/1986	12/31/1986	31	31	0	0.00					0.00					0.00					3.00							
1/1/87 - 1/31/87	1/1/1987	1/31/1987	31	31	0	0.00					0.00					0.00					2.00							
2/1/87-2/28/87	2/1/1987	2/28/1987	28	28	0	0.00					0.00					0.00					3.00							
3/1/87-3/31/87	3/1/1987	3/31/1987	31	31	0	0.00					0.00					0.00					2.00							
4/1/87-4/30/87	4/1/1987	4/30/1987	30	30	0	0.00					0.00					0.00					3.00							
5/1/87-5/31/87	5/1/1987	5/31/1987	31	31	0	0.00					0.00					0.00					2.00							
6/1/87-6/30/87	6/1/1987	6/30/1987	30	30	0	0.00					0.00					0.00					2.00							
7/1/87-7/31/87	7/1/1987	7/31/1987	31	31	0	0.00					0.00					0.00					3.00							
8/1/87-8/31/87	8/1/1987	8/31/1987	31	31	0	0.00					0.00					0.00					3.00							
9/1/87-9/30/87	9/1/1987	9/30/1987	30	30	0	0.00					0.00					0.00					3.00							
10/1/87-10/31/87	10/1/1987	10/31/1987	31	31	0	0.00					0.00					0.00					3.00							
11/1/87-11/30/87	11/1/1987	11/30/1987	30	30	0	0.00					0.00					0.00					2.00							
12/1/87-12/31/87	12/1/1987	12/31/1987	31	31	0	0.00					0.00					0.00					2.00							
			1,100			1.997	57.27				27	1405.62				98	196.22				181	0.00						

Chart 1: Days on base and cumulative contaminant exposure concentrations (1 L consumption per day)

Exposure Dates	Start	Stop	Total Days			HP TCE (ug/L-M)	TT TCE (ug/L-M)	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	HP PCE (ug/L-M)	TT PCE (ug/L-M)	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	HPVC (ug/L-M)	TT VC (ug/L-M)	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	HPBZ (ug/L-M)	TTBZ (ug/L-M)	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	Ingestion (L)	Ingestion exposure notes	
7/29/72-7/31/72	7/29/1972	7/31/1972	3	3	0	16		48	0	48	0		0	0	0	0		0	0	0	2		6	0	6	1.000	assume 1L from source regardless of activity or residence proportion	
8/1/72-8/31/72	8/1/1972	8/31/1972	31	31	0	20		620	0	620	0		0	0	0	1		31	0	31	3		93	0	93			
9/1/72-9/30/72	9/1/1972	9/30/1972	30	30	0	18		540	0	540	0		0	0	0	1		30	0	30	2		60	0	60			
10/1/1972 - 10/31/72	10/1/1972	10/31/1972	31	31	0	18		558	0	558	0		0	0	0	0		0	0	0	3		93	0	93			
11/1/72 - 11/30/72	11/1/1972	11/30/1972	30	30	0	25		750	0	750	0		0	0	0	3		90	0	90	3		90	0	90			
12/1/72 - 12/31/72	12/1/1972	12/31/1972	31	31	0	32		992	0	992	0		0	0	0	3		93	0	93	2		62	0	62			
1/1/73 - 1/31/73	1/1/1973	1/31/1973	31	31	0	27		837	0	837	0		0	0	0	2		62	0	62	3		93	0	93			
2/1/73 - 2/28/73	2/1/1973	2/28/1973	28	28	0	34		952	0	952	0		0	0	0	3		84	0	84	2		56	0	56			
3/1/73 - 3/31/73	3/1/1973	3/31/1973	31	31	0	38		1178	0	1178	0		0	0	0	3		93	0	93	2		62	0	62			
4/1/73 - 4/30/73	4/1/1973	4/30/1973	30	30	0	38		1140	0	1140	0		0	0	0	2		60	0	60	3		90	0	90			
5/1/73 - 5/31/73	5/1/1973	5/31/1973	31	31	0	43		1333	0	1333	0		0	0	0	3		93	0	93	3		93	0	93			
6/1/73 - 6/30/73	6/1/1973	6/30/1973	30	30	0	57		1710	0	1710	0		0	0	0	4		120	0	120	3		90	0	90			
7/1/73 - 7/30/73	7/1/1973	7/30/1973	30	30	0	73		2190	0	2190	1		30	0	30	5		150	0	150	3		90	0	90			
1/31/1974	1/31/1974	1/31/1974	1	1	0	106		106	0	106	1		1	0	1	5		5	0	5	3		3	0	3			
2/1/74 - 2/28/74	2/1/1974	2/28/1974	28	28	0	152		4256	0	4256	2		56	0	56	7		196	0	196	2		56	0	56			
3/1/74-3/31/74	3/1/1974	3/31/1974	31	31	0	163		5053	0	5053	3		93	0	93	7		217	0	217	2		62	0	62			
4/1/74-4/30/74	4/1/1974	4/30/1974	30	30	0	116		3480	0	3480	2		60	0	60	5		150	0	150	3		90	0	90			
5/1/74-5/31/74	5/1/1974	5/31/1974	31	31	0	142		4402	0	4402	2		62	0	62	6		186	0	186	2		62	0	62			
6/1/74-6/30/74	6/1/1974	6/30/1974	30	30	0	179		5370	0	5370	3		90	0	90	8		240	0	240	2		60	0	60			
7/1/74-7/31/74	7/1/1974	7/31/1974	31	31	0	309		6479	0	6479	4		124	0	124	9		279	0	279	2		62	0	62			
8/1/74-8/31/74	8/1/1974	8/31/1974	31	31	0	274		8494	0	8494	5		155	0	155	12		372	0	372	3		93	0	93			
9/1/74 - 9/30/74	9/1/1974	9/30/1974	30	30	0	217		6510	0	6510	4		120	0	120	9		270	0	270	3		90	0	90			
12/10/1975-12/31/75	12/10/1975	12/31/1975	0	0	22		1.78	39	39	0		44.74	984	984	0		2.89	64	64	0		0.00	0	0	0		
1/1/76-1/31/76	1/1/1976	1/31/1976	0	0	31		2.06	64	64	0		51.53	1597	1597	0		3.34	104	104	0		0.00	0	0	0		
2/1/76 - 2/18/76	2/1/1976	2/18/1976	0	0	18		2.15	39	39	0		53.43	962	962	0		3.60	65	65	0		0.00	0	0	0		
2/28/1976	2/28/1976	2/28/1976	0	0	1		2.20	2	2	0		53.43	53	53	0		3.60	4	4	0		0.00	0	0	0		
3/1/76-3/31/76	3/1/1976	3/31/1976	0	0	31		2.20	68	68	0		54.44	1688	1688	0		3.72	115	115	0		0.00	0	0	0		
4/1/76-4/30/76	4/1/1976	4/30/1976	0	0	30		2.24	67	67	0		55.38	1661	1661	0		3.85	116	116	0		0.00	0	0	0		
5/1/76-5/31/76	5/1/1976	5/31/1976	0	0	31		2.28	71	71	0		56.21	1743	1743	0		3.98	123	123	0		0.00	0	0	0		
6/1/76-6/30/76	6/1/1976	6/30/1976	0	0	30		2.32	70	70	0		57.07	1712	1712	0		4.10	123	123	0		0.00	0	0	0		
7/1/76-7/31/76	7/1/1976	7/31/1976	0	0	31		2.35	73	73	0		57.86	1794	1794	0		4.22	131	131	0		0.00	0	0	0		

8/1/76-8/31/76	8/1/1976	8/31/1976	0	0	31			2.39	74	74	0			58.73	1821	1821	0			4.34	135	135	0		0.00	0	0	0
9/1/76-9/30/76	9/1/1976	9/30/1976	0	0	30			2.43	73	73	0			59.58	1787	1787	0			4.46	134	134	0		0.00	0	0	0
10/1/76-10/31/76	10/1/1976	10/31/1976	0	0	31			2.46	76	76	0			60.41	1873	1873	0			4.57	142	142	0		0.00	0	0	0
11/1/76-11/30/76	11/1/1976	11/30/1976	0	0	30			2.50	75	75	0			61.28	1838	1838	0			4.68	140	140	0		0.00	0	0	0
12/1/76-12/31/76	12/1/1976	12/31/1976	0	0	31			2.53	78	78	0			62.10	1925	1925	0			4.79	148	148	0		0.00	0	0	0
1/1/77- 1/12/77	1/1/1977	1/12/1977	0	0	12			2.57	31	31	0			62.97	756	756	0			4.89	59	59	0		0.00	0	0	0
1/22/77 - 1/31/77	1/22/1977	1/31/1977	0	0	10			2.57	26	26	0			62.97	630	630	0			4.89	49	49	0		0.00	0	0	0
2/1/77-2/28/77	2/1/1977	2/28/1977	0	0	28			2.62	73	73	0			63.98	1791	1791	0			5.01	140	140	0		0.00	0	0	0
3/1/77-3/31/77	3/1/1977	3/31/1977	0	0	31			2.65	82	82	0			64.81	2039	2039	0			5.11	158	158	0		0.00	0	0	0
4/1/77 - 4/22/77	4/1/1977	4/22/1977	0	0	22			2.70	59	59	0			65.83	1448	1448	0			5.22	115	115	0		0.00	0	0	0
5/1/77 - 5/31/77	5/1/1977	5/31/1977	0	0	29			2.74	79	79	0			66.76	1936	1936	0			5.32	154	154	0		0.00	0	0	0
6/1/77-6/30/77	6/1/1977	6/30/1977	0	0	30			2.78	83	83	0			67.76	2033	2033	0			5.43	163	163	0		0.00	0	0	0
7/1/77-7/31/77	7/1/1977	7/31/1977	0	0	31			2.82	87	87	0			68.70	2130	2130	0			5.53	171	171	0		0.00	0	0	0
8/1/77-8/31/77	8/1/1977	8/31/1977	0	0	31			2.86	89	89	0			69.70	2161	2161	0			5.63	175	175	0		0.00	0	0	0
9/1/77-9/30/77	9/1/1977	9/30/1977	0	0	30			2.90	87	87	0			70.70	2121	2121	0			5.72	172	172	0		0.00	0	0	0
10/1/77- 10/20/77	10/1/1977	10/20/1977	0	0	20			2.94	59	59	0			71.65	1433	1433	0			5.82	116	116	0		0.00	0	0	0
8/29/1986	8/29/1986	8/31/1986	3	3	0	0.00			0	0	0	0.00			0	0	0	0.00			0	0	0	3.00			9	0	9
9/1/86-9/30/86	9/1/1986	9/30/1986	30	30	0	0.00			0	0	0	0.00			0	0	0	0.00			0	0	0	3.00			90	0	90
10/1/86-10/31/86	10/1/1986	10/31/1986	31	31	0	0.00			0	0	0	0.00			0	0	0	0.00			0	0	0	3.00			93	0	93
11/1/86-11/30/86	11/1/1986	11/30/1986	30	30	0	0.00			0	0	0	0.00			0	0	0	0.00			0	0	0	3.00			90	0	90
12/1/86-12/31/86	12/1/1986	12/31/1986	31	31	0	0.00			0	0	0	0.00			0	0	0	0.00			0	0	0	3.00			93	0	93
1/1/87- 1/31/87	1/1/1987	1/31/1987	31	31	0	0.00			0	0	0	0.00			0	0	0	0.00			0	0	0	2.00			62	0	62
2/1/87-2/28/87	2/1/1987	2/28/1987	28	28	0	0.00			0	0	0	0.00			0	0	0	0.00			0	0	0	3.00			84	0	84
3/1/87-3/31/87	3/1/1987	3/31/1987	31	31	0	0.00			0	0	0	0.00			0	0	0	0.00			0	0	0	2.00			62	0	62
4/1/87-4/30/87	4/1/1987	4/30/1987	30	30	0	0.00			0	0	0	0.00			0	0	0	0.00			0	0	0	3.00			90	0	90
5/1/87-5/31/87	5/1/1987	5/31/1987	31	31	0	0.00			0	0	0	0.00			0	0	0	0.00			0	0	0	2.00			62	0	62
6/1/87-6/30/87	6/1/1987	6/30/1987	30	30	0	0.00			0	0	0	0.00			0	0	0	0.00			0	0	0	2.00			60	0	60
7/1/87-7/31/87	7/1/1987	7/31/1987	31	31	0	0.00			0	0	0	0.00			0	0	0	0.00			0	0	0	3.00			93	0	93
8/1/87-8/31/87	8/1/1987	8/31/1987	31	31	0	0.00			0	0	0	0.00			0	0	0	0.00			0	0	0	3.00			93	0	93
9/1/87-9/30/87	9/1/1987	9/30/1987	30	30	0	0.00			0	0	0	0.00			0	0	0	0.00			0	0	0	3.00			90	0	90
10/1/87-10/31/87	10/1/1987	10/31/1987	31	31	0	0.00			0	0	0	0.00			0	0	0	0.00			0	0	0	3.00			93	0	93
11/1/87-11/30/87	11/1/1987	11/30/1987	30	30	0	0.00			0	0	0	0.00			0	0	0	0.00			0	0	0	3.00			90	0	90
12/1/87-12/31/87	12/1/1987	12/31/1987	31	31	0	0.00			0	0	0	0.00			0	0	0	0.00			0	0	0	2.00			62	0	62
			1,100					58,823	1,625	56,998				40,677	39,886	791				5,816	3,015	2,821			2,842	0	2,842			

Chart 2: Days on base and cumulative contaminant exposure concentrations (ATSDR ingestion 6L/day 3 days per week and 3L per day 4 days per week)

Exposure Dates	Start	Stop	Total Days			HPT CE (ug/L-M)	TT TCE (ug/L-M)	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	HP PCE (ug/L-M)	TT PCE (ug/L-M)	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	HPVC (ug/L-M)	TT VC (ug/L-M)	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	HPBZ (ug/L-M)	TT BZ (ug/L-M)	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	Ingestion (L)	Ingestion exposure notes
7/28/1972-7/31/72	7/28/1972	7/31/1972	3	3	0	16		208	0	208	0		0	0	0	0		0	0	0	2		26	0	26	6.0	ATSDR ingestion 6L/day 3 days per week
8/1/72-8/31/72	8/1/1972	8/31/1972	31	31	0	20		2693	0	2693	0		0	0	0	1		135	0	135	3		404	0	404	3.0	
9/1/72-9/30/72	9/1/1972	9/30/1972	30	30	0	18		2345	0	2345	0		0	0	0	1		130	0	130	2		261	0	261	3.1	ATSDR ingestion 3.1L per day 4 days per week
10/1/1972 - 10/31/72	10/1/1972	10/31/1972	31	31	0	18		2423	0	2423	0		0	0	0	0		0	0	0	3		404	0	404	4.0	
11/1/72 - 11/30/72	11/1/1972	11/30/1972	30	30	0	25		3257	0	3257	0		0	0	0	3		391	0	391	3		391	0	391	0.667	HP heavy training day proportion
12/1/72 - 12/31/72	12/1/1972	12/31/1972	31	31	0	32		4308	0	4308	0		0	0	0	3		404	0	404	2		269	0	269	0.333	Residential proportion day on heavy training days
1/1/73- 1/31/73	1/1/1973	1/31/1973	31	31	0	27		3635	0	3635	0		0	0	0	2		269	0	269	3		404	0	404	0.333	HP light/non training ingestion proportion days
2/1/73- 2/28/73	2/1/1973	2/28/1973	28	28	0	34		4134	0	4134	0		0	0	0	3		365	0	365	2		243	0	343	0.667	Residential proportion day on light/NON-training days
3/1/73- 3/31/73	3/1/1973	3/31/1973	31	31	0	38		5116	0	5116	0		0	0	0	3		404	0	404	2		269	0	269		
4/1/73 - 4/30/73	4/1/1973	4/30/1973	30	30	0	38		4951	0	4951	0		0	0	0	2		261	0	261	3		391	0	391		
5/1/73 - 5/31/73	5/1/1973	5/31/1973	31	31	0	43		5789	0	5789	0		0	0	0	3		404	0	404	3		404	0	404		
6/1/73- 6/30/73	6/1/1973	6/30/1973	30	30	0	57		7426	0	7426	0		0	0	0	4		521	0	521	3		391	0	391		
7/1/73- 7/30/73	7/1/1973	7/30/1973	30	30	0	73		9511	0	9511	1		130	0	130	5		651	0	651	3		391	0	391		
1/31/1974	1/31/1974	1/31/1974	1	1	0	106		460	0	460	1		4	0	4	5		22	0	22	3		13	0	13		
2/1/74 - 2/28/74	2/1/1974	2/28/1974	28	28	0	152		18483	0	18483	2		343	0	343	7		851	0	851	2		343	0	343		
3/1/74-3/31/74	3/1/1974	3/31/1974	31	31	0	163		21944	0	21944	3		404	0	404	7		942	0	942	2		269	0	269		
4/1/74-4/30/74	4/1/1974	4/30/1974	30	30	0	116		15113	0	15113	2		261	0	261	5		651	0	651	3		391	0	391		
5/1/74-5/31/74	5/1/1974	5/31/1974	31	31	0	142		19117	0	19117	2		269	0	269	6		808	0	808	2		269	0	269		
6/1/74-6/30/74	6/1/1974	6/30/1974	30	30	0	179		23321	0	23321	3		391	0	391	8		1042	0	1042	2		261	0	261		
7/1/74-7/31/74	7/1/1974	7/31/1974	31	31	0	309		28137	0	28137	4		539	0	539	9		1212	0	1212	2		269	0	269		
8/1/74-8/31/74	8/1/1974	8/31/1974	31	31	0	274		36888	0	36888	5		673	0	673	12		1616	0	1616	3		404	0	404		
9/1/74- 9/30/74	9/1/1974	9/30/1974	30	30	0	217		28272	0	28272	4		521	0	521	9		1173	0	1173	3		391	0	391		
12/10/1975-12/31/75	12/10/1975	12/31/1975	0	0	22		1.78	80	80	0		44.74	2006	2006	0		2.89	130	130	0		0.00	0	0	0		
1/1/76- 1/31/76	1/1/1976	1/31/1976	0	0	31		2.06	130	130	0		51.53	3255	3255	0		3.34	211	211	0		0.00	0	0	0		
2/1/76- 2/18/76	2/1/1976	2/18/1976	0	0	18		2.15	79	79	0		53.43	1960	1960	0		3.60	132	132	0		0.00	0	0	0		
2/28/1976	2/28/1976	2/28/1976	0	0	1		2.20	4	4	0		53.43	109	109	0		3.60	7	7	0		0.00	0	0	0		
3/1/76-3/31/76	3/1/1976	3/31/1976	0	0	31		2.20	139	139	0		54.44	3439	3439	0		3.72	235	235	0		0.00	0	0	0		
4/1/76-4/30/76	4/1/1976	4/30/1976	0	0	30		2.24	137	137	0		55.38	3386	3386	0		3.85	235	235	0		0.00	0	0	0		
5/1/76-5/31/76	5/1/1976	5/31/1976	0	0	31		2.28	144	144	0		56.21	3551	3551	0		3.98	251	251	0		0.00	0	0	0		
6/1/76-6/30/76	6/1/1976	6/30/1976	0	0	30		2.32	142	142	0		57.07	3489	3489	0		4.10	251	251	0		0.00	0	0	0		
7/1/76-7/31/76	7/1/1976	7/31/1976	0	0	31		2.35	148	148	0		57.86	3655	3655	0		4.22	267	267	0		0.00	0	0	0		
8/1/76-8/31/76	8/1/1976	8/31/1976	0	0	31		2.39	151	151	0		58.73	3710	3710	0		4.34	274	274	0		0.00	0	0	0		
9/1/76-9/30/76	9/1/1976	9/30/1976	0	0	30		2.43	149	149	0		59.58	3642	3642	0		4.46	273	273	0		0.00	0	0	0		
10/1/76-10/31/76	10/1/1976	10/31/1976	0	0	31		2.46	155	155	0		60.41	3816	3816	0		4.57	289	289	0		0.00	0	0	0		
11/1/76-11/30/76	11/1/1976	11/30/1976	0	0	30		2.50	153	153	0		61.28	3746	3746	0		4.68	286	286	0		0.00	0	0	0		
12/1/76-12/31/76	12/1/1976	12/31/1976	0	0	31		2.53	160	160	0		62.10	3923	3923	0		4.79	303	303	0		0.00	0	0	0		
1/1/77- 1/12/77	1/1/1977	1/12/1977	0	0	12		2.57	63	63	0		62.97	1540	1540	0		4.89	120	120	0		0.00	0	0	0		
1/22/77 - 1/31/77	1/22/1977	1/31/1977	0	0	10		2.57	52	52	0		62.97	1283	1283	0		4.89	100	100	0		0.00	0	0	0		
2/1/77-2/28/77	2/1/1977	2/28/1977	0	0	28		2.62	149	149	0		63.98	3651	3651	0		5.01	286	286	0		0.00	0	0	0		
3/1/77-3/31/77	3/1/1977	3/31/1977	0	0	31		2.65	167	167	0		64.81	4094	4094	0		5.11	323	323	0		0.00	0	0	0		
4/1/77 - 4/22/77	4/1/1977	4/22/1977	0	0	22		2.70	121	121	0		65.83	2951	2951	0		5.22	234	234	0		0.00	0	0	0		
5/1/77 - 5/31/77	5/1/1977	5/31/1977	0	0	29		2.74	162	162	0		66.76	3945	3945	0		5.32	314	314	0		0.00	0	0	0		
6/1/77-6/30/77	6/1/1977	6/30/1977	0	0	30		2.78	170	170	0		67.76	4142	4142	0		5.43	332	332	0		0.00	0	0	0		
7/1/77-7/31/77	7/1/1977	7/31/1977	0	0	31		2.82	178	178	0		68.70	4340	4340	0		5.53	349	349	0		0.00	0	0	0		
8/1/77-8/31/77	8/1/1977	8/31/1977	0	0	31		2.86	181	181	0		69.70	4403	4403	0		5.63	396	396	0		0.00	0	0	0		
9/1/77-9/30/77	9/1/1977	9/30/1977	0	0	30		2.90	177	177	0		70.70	4322	4322	0		5.72	350	350	0		0.00	0	0	0		
10/1/77- 10/20/77	10/1/1977	10/20/1977	0	0	20		2.94	120	120	0		71.65	2920	2920	0		5.82	237	237	0		0.00	0	0	0		
8/29/1986	8/29/1986	8/31/1986	3	3	0	0.00			0	0	0	0.00			0	0	0.00			0	0	0	3.00			39	0	39
9/1/86-9/30/86	9/1/1986	9/30/1986	30	30	0	0.00			0	0	0	0.00			0	0	0.00			0	0	0	3.00			391	0	391
10/1/86-10/31/86	10/1/1986	10/31/1986	31	31	0	0.00			0	0	0	0.00			0	0	0.00			0	0	0	3.00			404	0	404
11/1/86-11/30/86	11/1/1986	11/30/1986	30	30	0	0.00			0	0	0	0.00			0	0	0.00			0	0	0	3.00			391	0	391
12/1/86-12/31/86	12/1/1986	12/31/1986	31	31	0	0.00			0	0	0	0.00			0	0	0.00			0	0	0	3.00			404	0	404
1/1/87- 1/31/87	1/1/1987	1/31/1987	31	31	0	0.00			0	0	0	0.00			0	0	0.00			0	0	0	2.00			269	0	269
2/1/87-2/28/87	2/1/1987	2/28/1987	28	28	0	0.00			0	0	0	0.00			0	0	0.00			0	0	0	3.00			365	0	365
3/1/87-3/31/87	3/1/1987	3/31/1987	31	31	0	0.00			0	0	0	0.00			0	0	0.00			0	0	0	2.00			269	0	269
4/1/87-4/30/87	4/1/1987	4/30/1987	30	30	0	0.00			0	0	0	0.00			0	0	0.00			0	0	0	3.00			391	0	391
5/1/87-5/31/87	5/1/1987	5/31/1987	31	31	0	0.00			0	0	0	0.00			0	0	0.00			0	0	0	2.00			269	0	269
6/1/87-6/30/87	6/1/1987	6/30/1987	30	30	0	0.00			0	0	0	0.00			0	0	0.00			0	0	0	2.00			261	0	261
7/1/87-7/31/87	7/1/1987	7/31/1987	31	31	0	0.00			0	0	0	0.00			0	0	0.00			0	0	0	3.00			404	0	404
8/1/87-8/31/87	8/1/1987	8/31/1987	31	31	0	0.00			0	0	0	0.00			0	0	0.00			0	0	0	3.00			404	0	404

9/1/67-9/30/67	9/1/1967	9/30/1967	30	30	0	0.00		0	0	0	0.00		0	0	0	0.00		0	0	0	3.00		391	0	391			
10/1/67-10/31/67	10/1/1967	10/31/1967	31	31	0	0.00		0	0	0	0.00		0	0	0	0.00		0	0	0	3.00		404	0	404			
11/1/67-11/30/67	11/1/1967	11/30/1967	30	30	0	0.00		0	0	0	0.00		0	0	0	0.00		0	0	0	2.00		261	0	261			
12/1/67-12/31/67	12/1/1967	12/31/1967	31	31	0	0.00		0	0	0	0.00		0	0	0	0.00		0	0	0	2.00		269	0	269			
			1,100					250,946	3,312	247,634			94,716	91,280	3,435			18,395	6,143	12,251			12,342	0	12,242			

Chart 3: Days on base and cumulative contaminant exposure concentrations- deposition informed activities/ingestion

Exposure Dates	Start	Stop	Total Days			HPTCE (ug/L-M)	TTTCE(ug/L-M)	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	HPCE (ug/L-M)	TTPCE (ug/L-M)	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	HPVC(ug/L-M)	TTVC (ug/L-M)	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	HPBZ (ug/L-M)	TTBZ (ug/L-M)	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	Ingestion (L)	Ingestion exposure notes
7/29/72-7/31/72	7/29/1972	7/31/1972	3	3	0	16		107	0	107	0		0	0	0	0		0	0	0	2		13	0	13	5.4	vot consumed heavy training
8/1/72-8/31/72	8/1/1972	8/31/1972	31	31	0	20		1384	0	1384	0		0	0	0	1		69	0	69	3		208	0	208	2.5	2.5 days per week training heavy activity from deposition
9/1/72-9/30/72	9/1/1972	9/30/1972	30	30	0	18		1205	0	1205	0		0	0	0	1		67	0	67	2		134	0	134	4.4	vot consumed light training
10/1/1972 - 10/31/72	10/1/1972	10/31/1972	31	31	0	18		1245	0	1245	0		0	0	0	0		0	0	0	3		208	0	208	4.5	4.5 days per week non-training light activity from deposition
11/1/72 - 11/30/72	11/1/1972	11/30/1972	30	30	0	25		1674	0	1674	0		0	0	0	3		201	0	201	3		201	0	201	0.667	HP heavy training day proportion
12/1/72 - 12/31/72	12/1/1972	12/31/1972	31	31	0	32		2214	0	2214	0		0	0	0	3		208	0	208	2		138	0	138	0.333	Residential proportion day on training days
1/1/73 - 1/31/73	1/1/1973	1/31/1973	31	31	0	27		1868	0	1868	0		0	0	0	2		138	0	138	3		208	0	208	0.333	HP light/non training ingestion proportion days
2/1/73 - 2/28/73	2/1/1973	2/28/1973	28	28	0	34		2125	0	2125	0		0	0	0	3		187	0	187	2		125	0	125	0.667	Residential proportion day on NON-training days
3/1/73 - 3/31/73	3/1/1973	3/31/1973	31	31	0	38		2629	0	2629	0		0	0	0	3		208	0	208	2		138	0	138		
4/1/73 - 4/30/73	4/1/1973	4/30/1973	30	30	0	38		2544	0	2544	0		0	0	0	2		134	0	134	3		201	0	201		
5/1/73 - 5/31/73	5/1/1973	5/31/1973	31	31	0	43		2975	0	2975	0		0	0	0	3		208	0	208	3		208	0	208		
6/1/73 - 6/30/73	6/1/1973	6/30/1973	30	30	0	57		3816	0	3816	0		0	0	0	4		268	0	268	3		201	0	201		
7/1/73 - 7/30/73	7/1/1973	7/30/1973	30	30	0	73		4888	0	4888	1		67	0	67	5		335	0	335	3		201	0	201		
1/31/1974	1/31/1974	1/31/1974	1	1	0	106		237	0	237	1		2	0	2	5		11	0	11	3		7	0	7		
2/1/74 - 2/28/74	2/1/1974	2/28/1974	28	28	0	152		9498	0	9498	2		125	0	125	7		437	0	437	2		125	0	125		
3/1/74 - 3/31/74	3/1/1974	3/31/1974	31	31	0	163		11277	0	11277	3		208	0	208	7		484	0	484	2		138	0	138		
4/1/74 - 4/30/74	4/1/1974	4/30/1974	30	30	0	116		7767	0	7767	2		134	0	134	5		335	0	335	3		201	0	201		
5/1/74 - 5/31/74	5/1/1974	5/31/1974	31	31	0	142		9824	0	9824	2		138	0	138	6		415	0	415	2		138	0	138		
6/1/74 - 6/30/74	6/1/1974	6/30/1974	30	30	0	179		11985	0	11985	3		201	0	201	8		536	0	536	2		134	0	134		
7/1/74 - 7/31/74	7/1/1974	7/31/1974	31	31	0	209		14460	0	14460	4		277	0	277	9		623	0	623	2		138	0	138		
8/1/74 - 8/31/74	8/1/1974	8/31/1974	31	31	0	274		18957	0	18957	5		346	0	346	12		830	0	830	3		208	0	208		
9/1/74 - 9/30/74	9/1/1974	9/30/1974	30	30	0	217		14529	0	14529	4		268	0	268	9		603	0	603	3		201	0	201		
12/10/1975-12/31/75	12/10/1975	12/31/1975	0	0	22		1.78	100	100	0		44.74	2502	2502	0		2.89	162	162	0		0.00	0	0	0		
1/1/76-1/31/76	1/1/1976	1/31/1976	0	0	31		2.06	162	162	0		51.53	4061	4061	0		3.34	263	263	0		0.00	0	0	0		
2/1/76- 2/18/76	2/1/1976	2/18/1976	0	0	18		2.15	98	98	0		53.43	2445	2445	0		3.60	165	165	0		0.00	0	0	0		
2/28/1976	2/28/1976	2/28/1976	0	0	1		2.20	6	6	0		53.43	136	136	0		3.60	9	9	0		0.00	0	0	0		
3/1/76-3/31/76	3/1/1976	3/31/1976	0	0	31		2.20	173	173	0		54.44	4290	4290	0		3.72	293	293	0		0.00	0	0	0		
4/1/76-4/30/76	4/1/1976	4/30/1976	0	0	30		2.24	171	171	0		55.38	4224	4224	0		3.85	294	294	0		0.00	0	0	0		
5/1/76-5/31/76	5/1/1976	5/31/1976	0	0	31		2.28	180	180	0		56.21	4430	4430	0		3.98	314	314	0		0.00	0	0	0		
6/1/76-6/30/76	6/1/1976	6/30/1976	0	0	30		2.32	177	177	0		57.07	4353	4353	0		4.10	313	313	0		0.00	0	0	0		
7/1/76-7/31/76	7/1/1976	7/31/1976	0	0	31		2.35	185	185	0		57.86	4560	4560	0		4.22	333	333	0		0.00	0	0	0		
8/1/76-8/31/76	8/1/1976	8/31/1976	0	0	31		2.39	188	188	0		58.73	4628	4628	0		4.34	342	342	0		0.00	0	0	0		
9/1/76-9/30/76	9/1/1976	9/30/1976	0	0	30		2.43	185	185	0		59.58	4544	4544	0		4.46	340	340	0		0.00	0	0	0		
10/1/76-10/31/76	10/1/1976	10/31/1976	0	0	31		2.46	194	194	0		60.41	4761	4761	0		4.57	360	360	0		0.00	0	0	0		
11/1/76-11/30/76	11/1/1976	11/30/1976	0	0	30		2.50	191	191	0		61.28	4674	4674	0		4.68	357	357	0		0.00	0	0	0		
12/1/76-12/31/76	12/1/1976	12/31/1976	0	0	31		2.53	199	199	0		62.10	4894	4894	0		4.79	377	377	0		0.00	0	0	0		
1/1/77- 1/12/77	1/1/1977	1/12/1977	0	0	12		2.57	78	78	0		62.97	1921	1921	0		4.89	149	149	0		0.00	0	0	0		
1/22/77 - 1/31/77	1/22/1977	1/31/1977	0	0	10		2.57	65	65	0		62.97	1601	1601	0		4.89	124	124	0		0.00	0	0	0		
2/1/77-2/28/77	2/1/1977	2/28/1977	0	0	28		2.62	186	186	0		63.98	4554	4554	0		5.01	357	357	0		0.00	0	0	0		
3/1/77-3/31/77	3/1/1977	3/31/1977	0	0	31		2.65	209	209	0		64.81	5108	5108	0		5.11	403	403	0		0.00	0	0	0		
4/1/77- 4/22/77	4/1/1977	4/22/1977	0	0	22		2.70	151	151	0		65.83	3692	3692	0		5.22	292	292	0		0.00	0	0	0		
5/1/77- 5/31/77	5/1/1977	5/31/1977	0	0	29		2.74	202	202	0		66.76	4922	4922	0		5.32	392	392	0		0.00	0	0	0		
6/1/77-6/30/77	6/1/1977	6/30/1977	0	0	30		2.78	212	212	0		67.76	5168	5168	0		5.43	414	414	0		0.00	0	0	0		
7/1/77-7/31/77	7/1/1977	7/31/1977	0	0	31		2.82	222	222	0		68.70	5414	5414	0		5.53	436	436	0		0.00	0	0	0		
8/1/77-8/31/77	8/1/1977	8/31/1977	0	0	31		2.86	225	225	0		69.70	5493	5493	0		5.63	444	444	0		0.00	0	0	0		
9/1/77-9/30/77	9/1/1977	9/30/1977	0	0	30		2.90	221	221	0		70.70	5392	5392	0		5.72	436	436	0		0.00	0	0	0		
10/1/77 - 10/29/77	10/1/1977	10/29/1977	0	0	29		2.94	149	149	0		71.65	3643	3643	0		5.82	296	296	0		0.00	0	0	0		
9/29/1986	9/29/1986	9/29/1986	3	3	0	0.00		0	0	0	0.00		0	0	0	0.00		0	0	0	3.00		20	0	20		
9/1/86-9/30/86	9/1/1986	9/30/1986	30	30	0	0.00		0	0	0	0.00		0	0	0	0.00		0	0	0	3.00		201	0	201		
10/1/86-10/31/86	10/1/1986	10/31/1986	31	31	0	0.00		0	0	0	0.00		0	0	0	0.00		0	0	0	3.00		208	0	208		
11/1/86-11/30/86	11/1/1986	11/30/1986	30	30	0	0.00		0	0	0	0.00		0	0	0	0.00		0	0	0	3.00		201	0	201		
12/1/86-12/31/86	12/1/1986	12/31/1986	31	31	0	0.00		0	0	0	0.00		0	0	0	0.00		0	0	0	3.00		208	0	208		
1/1/87- 1/31/87	1/1/1987	1/31/1987	31	31	0	0.00		0	0	0	0.00		0	0	0	0.00		0	0	0	2.00		138	0	138		
2/1/87-2/28/87	2/1/1987	2/28/1987	28	28	0	0.00		0	0	0	0.00		0	0	0	0.00		0	0	0	3.00		187	0	187		
3/1/87-3/31/87	3/1/1987	3/31/1987	31	31	0	0.00		0	0	0	0.00		0	0	0	0.00		0	0	0	2.00		138	0	138		
4/1/87-4/30/87	4/1/1987	4/30/1987	30	30	0	0.00		0	0	0	0.00		0	0	0	0.00		0	0	0	3.00		201	0	201		
5/1/87-5/31/87	5/1/1987	5/31/1987	31	31	0	0.00		0	0	0	0.00		0	0	0	0.00		0	0	0	2.00		138	0	138		
6/1/87-6/30/87	6/1/1987	6/30/1987	30	30	0	0.00		0	0	0	0.00		0	0	0	0.00		0	0	0	2.00		134	0	134		
7/1/87-7/31/87	7/1/1987	7/31/1987	31	31	0	0.00		0	0	0	0.00		0	0	0	0.00		0	0	0	3.00		208	0	208		
8/1/87-8/31/87	8/1/1987	8/31/1987	31	31	0	0.00		0	0	0	0.00		0	0	0	0.00		0	0	0	3.00		208	0	208		
9/1/87-9/30/87	9/1/1987	9/30/1987	30	30	0	0.00		0	0	0	0.00		0	0	0	0.00		0	0	0	3.00		201	0	201		
10/1/87-10/31/87	10/1/1987	10/31/1987	31	31	0	0.00		0	0	0	0.00		0	0	0	0.00		0	0	0	3.00		208	0	208		
11/1/87-11/30/87	11/1/1987	11/30/1987	30	30	0	0.00		0	0	0	0.00		0	0	0	0.00		0	0	0	2.00		134	0	134		
12/1/87-12/31/87	12/1/1987	12/31/1987	31	31	0	0.00		0	0	0	0.00		0	0	0	0.00		0	0	0	2.00		138	0	138		
			1,100					131,319	4,132	127,207			103,164	101,399	1,765			13,960	7,664	6,296			6,343	0	6,343		

Exposure estimate 2.5 days per week in field training:

time	product	number	volume (ounces ea)	total volume per day (L)
breakfast	water	1.5	12	0.532323
lunch	water	1.5	12	0.532323
dinner	water	1.5	12	0.532323
Sum				1.596969

Exposure estimate 4 days per week not in field training:

time	product	number	volume (ounces ea)	total volume per day(L)
breakfast	water	1.5	12	0.532323
lunch	water	1.5	12	0.532323
dinner	water	1.5	12	0.532323
Sum				1.596969

Chart 4: Days on base and cumulative contaminant exposure concentrations- deposition informed activities; PM 1957-1983 moderate day averages

Exposure Dates	Start	Stop	Total Days			HPTCE (ug/L-M)	TTTCE(ug/L-M)	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	HPCE (ug/L-M)	TTPCE (ug/L-M)	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	HPVC(ug/L-M)	TTVC (ug/L-M)	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	HPBZ (ug/L-M)	TTBZ (ug/L-M)	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	Ingestion (L)	Ingestion exposure notes
7/29/72-7/31/72	7/29/1972	7/31/1972	3	3	0	16		164	0	164	0		0	0	0	0		0	0	0	2		21	0	21	8.52	3 days per week training heavy activity from deposition; PM average 1957-1983; moderate day; desert/tropical <80oF
8/1/72-8/31/72	8/1/1972	8/31/1972	31	31	0	20		2124	0	2124	0		0	0	0	1		106	0	106	3		319	0	319	3	
9/1/72-9/30/72	9/1/1972	9/30/1972	30	30	0	18		1850	0	1850	0		0	0	0	1		103	0	103	2		206	0	206	5.21	4 days per week training light activity from deposition; PM average 1957-1983; moderate day; desert/tropical <80oF
10/1/1972 - 10/31/72	10/1/1972	10/31/1972	31	31	0	18		1912	0	1912	0		0	0	0	0		0	0	0	3		319	0	319	4	
11/1/72 - 11/30/72	11/1/1972	11/30/1972	30	30	0	25		2569	0	2569	0		0	0	0	3		308	0	308	3		308	0	308	0.667	HP heavy training day proportion

12/1/72 - 12/31/72	12/1/1972	12/31/1972	31	31	0	32		3399	0	3399	0			0	0	0	3		319	0	319	2		212	0	212	0.333	Residential proportion day on training days	
1/1/73- 1/31/73	1/1/1973	1/31/1973	31	31	0	27		2868	0	2868	0			0	0	0	2		212	0	212	3		319	0	319	0.333	HP light/man training session proportion days	
2/1/73- 2/28/73	2/1/1973	2/28/1973	28	28	0	34		3261	0	3261	0			0	0	0	3		288	0	288	2		192	0	192	0.667	Residential proportion day on NON-training days	
3/1/73- 3/31/73	3/1/1973	3/31/1973	31	31	0	38		4036	0	4036	0			0	0	0	3		319	0	319	2		212	0	212			
4/1/73- 4/30/73	4/1/1973	4/30/1973	30	30	0	38		3906	0	3906	0			0	0	0	2		206	0	206	3		308	0	308			
5/1/73- 5/31/73	5/1/1973	5/31/1973	31	31	0	43		4567	0	4567	0			0	0	0	3		319	0	319	3		319	0	319			
6/1/73- 6/30/73	6/1/1973	6/30/1973	30	30	0	57		5858	0	5858	0			0	0	0	4		411	0	411	3		308	0	308			
7/1/73- 7/30/73	7/1/1973	7/30/1973	30	30	0	73		7503	0	7503	1			103	0	103	5		514	0	514	3		308	0	308			
1/31/1974	1/31/1974	1/31/1974	1	1	0	106		363	0	363	1			3	0	3	5		17	0	17	3		10	0	10			
2/1/74- 2/28/74	2/1/1974	2/28/1974	28	28	0	152		14581	0	14581	2			192	0	192	7		671	0	671	2		192	0	192			
3/1/74- 3/31/74	3/1/1974	3/31/1974	31	31	0	163		17311	0	17311	3			319	0	319	7		743	0	743	2		212	0	212			
4/1/74- 4/30/74	4/1/1974	4/30/1974	30	30	0	116		11922	0	11922	2			206	0	206	5		514	0	514	3		308	0	308			
5/1/74- 5/31/74	5/1/1974	5/31/1974	31	31	0	142		15081	0	15081	2			212	0	212	6		637	0	637	2		212	0	212			
6/1/74- 6/30/74	6/1/1974	6/30/1974	30	30	0	179		18397	0	18397	3			308	0	308	8		822	0	822	2		206	0	206			
7/1/74- 7/31/74	7/1/1974	7/31/1974	31	31	0	209		22197	0	22197	4			425	0	425	9		996	0	996	2		212	0	212			
8/1/74- 8/31/74	8/1/1974	8/31/1974	31	31	0	274		29100	0	29100	5			531	0	531	12		1274	0	1274	3		319	0	319			
9/1/74- 9/30/74	9/1/1974	9/30/1974	30	30	0	217		22303	0	22303	4			411	0	411	9		925	0	925	3		308	0	308			
12/10/1975-12/31/75	12/10/1975	12/31/1975	0	0	22		1.78	125	125	0		44.74	3149	3149	0		2.89	203	203	0		0.00	0	0	0			
1/1/76-1/31/76	1/1/1976	1/31/1976	0	0	31		2.06	204	204	0		51.53	5111	5111	0		3.34	331	331	0		0.00	0	0	0			
2/1/76- 2/18/76	2/1/1976	2/18/1976	0	0	18		2.15	124	124	0		53.43	3077	3077	0		3.60	207	207	0		0.00	0	0	0			
2/28/1976	2/28/1976	2/28/1976	0	0	1		2.20	7	7	0		53.43	171	171	0		3.60	12	12	0		0.00	0	0	0			
3/1/76-3/31/76	3/1/1976	3/31/1976	0	0	31		2.20	218	218	0		54.44	5400	5400	0		3.72	369	369	0		0.00	0	0	0			
4/1/76-4/30/76	4/1/1976	4/30/1976	0	0	30		2.24	215	215	0		55.38	5316	5316	0		3.85	370	370	0		0.00	0	0	0			
5/1/76-5/31/76	5/1/1976	5/31/1976	0	0	31		2.28	226	226	0		56.21	5576	5576	0		3.98	395	395	0		0.00	0	0	0			
6/1/76-6/30/76	6/1/1976	6/30/1976	0	0	30		2.32	223	223	0		57.07	5478	5478	0		4.10	394	394	0		0.00	0	0	0			
7/1/76-7/31/76	7/1/1976	7/31/1976	0	0	31		2.35	233	233	0		57.86	5739	5739	0		4.22	419	419	0		0.00	0	0	0			
8/1/76-8/31/76	8/1/1976	8/31/1976	0	0	31		2.39	237	237	0		58.73	5826	5826	0		4.34	430	430	0		0.00	0	0	0			
9/1/76-9/30/76	9/1/1976	9/30/1976	0	0	30		2.43	233	233	0		59.58	5719	5719	0		4.46	428	428	0		0.00	0	0	0			
10/1/76-10/31/76	10/1/1976	10/31/1976	0	0	31		2.46	244	244	0		60.41	5992	5992	0		4.57	453	453	0		0.00	0	0	0			
11/1/76-11/30/76	11/1/1976	11/30/1976	0	0	30		2.50	240	240	0		61.28	5882	5882	0		4.68	449	449	0		0.00	0	0	0			
12/1/76- 12/31/76	12/1/1976	12/31/1976	0	0	31		2.53	251	251	0		62.10	6160	6160	0		4.79	475	475	0		0.00	0	0	0			
1/1/77- 1/12/77	1/1/1977	1/12/1977	0	0	12		2.57	99	99	0		62.97	2418	2418	0		4.89	188	188	0		0.00	0	0	0			
1/22/77 - 1/31/77	1/22/1977	1/31/1977	0	0	10		2.57	82	82	0		62.97	2015	2015	0		4.89	156	156	0		0.00	0	0	0			
2/1/77- 2/28/77	2/1/1977	2/28/1977	0	0	28		2.62	235	235	0		63.98	5732	5732	0		5.01	449	449	0		0.00	0	0	0			
3/1/77- 3/31/77	3/1/1977	3/31/1977	0	0	31		2.65	263	263	0		64.81	6429	6429	0		5.11	507	507	0		0.00	0	0	0			
4/1/77- 4/22/77	4/1/1977	4/22/1977	0	0	22		2.70	190	190	0		65.83	4634	4634	0		5.22	367	367	0		0.00	0	0	0			
5/1/77- 5/31/77	5/1/1977	5/31/1977	0	0	29		2.74	254	254	0		66.76	6195	6195	0		5.32	494	494	0		0.00	0	0	0			
6/1/77-6/30/77	6/1/1977	6/30/1977	0	0	30		2.78	267	267	0		67.76	6505	6505	0		5.43	521	521	0		0.00	0	0	0			
7/1/77-7/31/77	7/1/1977	7/31/1977	0	0	31		2.82	280	280	0		68.70	6815	6815	0		5.53	549	549	0		0.00	0	0	0			
8/1/77-8/31/77	8/1/1977	8/31/1977	0	0	31		2.86	284	284	0		68.70	6914	6914	0		5.63	558	558	0		0.00	0	0	0			
9/1/77-9/30/77	9/1/1977	9/30/1977	0	0	30		2.90	278	278	0		70.70	6787	6787	0		5.72	549	549	0		0.00	0	0	0			
10/1/77 - 10/29/77	10/1/1977	10/29/1977	0	0	20		2.94	188	188	0		71.65	4585	4585	0		5.82	372	372	0		0.00	0	0	0			
8/29/1986	8/29/1986	8/31/1986	3	3	0	0.00		0	0	0	0.00			0	0	0	0.00		0	0	0	3.00		31	0	31			
9/1/86-9/30/86	9/1/1986	9/30/1986	30	30	0	0.00		0	0	0	0.00			0	0	0	0.00		0	0	0	3.00		308	0	308			
10/1/86-10/31/86	10/1/1986	10/31/1986	31	31	0	0.00		0	0	0	0.00			0	0	0	0.00		0	0	0	3.00		319	0	319			
11/1/86-11/30/86	11/1/1986	11/30/1986	30	30	0	0.00		0	0	0	0.00			0	0	0	0.00		0	0	0	3.00		308	0	308			
12/1/86-12/31/86	12/1/1986	12/31/1986	31	31	0	0.00		0	0	0	0.00			0	0	0	0.00		0	0	0	3.00		319	0	319			
1/1/87 - 1/31/87	1/1/1987	1/31/1987	31	31	0	0.00		0	0	0	0.00			0	0	0	0.00		0	0	0	2.00		212	0	212			
2/1/87-2/28/87	2/1/1987	2/28/1987	28	28	0	0.00		0	0	0	0.00			0	0	0	0.00		0	0	0	3.00		288	0	288			
3/1/87-3/31/87	3/1/1987	3/31/1987	31	31	0	0.00		0	0	0	0.00			0	0	0	0.00		0	0	0	2.00		212	0	212			
4/1/87-4/30/87	4/1/1987	4/30/1987	30	30	0	0.00		0	0	0	0.00			0	0	0	0.00		0	0	0	3.00		308	0	308			
5/1/87-5/31/87	5/1/1987	5/31/1987	31	31	0	0.00		0	0	0	0.00			0	0	0	0.00		0	0	0	2.00		212	0	212			
6/1/87-6/30/87	6/1/1987	6/30/1987	30	30	0	0.00		0	0	0	0.00			0	0	0	0.00		0	0	0	2.00		206	0	206			
7/1/87-7/31/87	7/1/1987	7/31/1987	31	31	0	0.00		0	0	0	0.00			0	0	0	0.00		0	0	0	3.00		319	0	319			
8/1/87-8/31/87	8/1/1987	8/31/1987	31	31	0	0.00		0	0	0	0.00			0	0	0	0.00		0	0	0	3.00		319	0	319			
9/1/87-9/30/87	9/1/1987	9/30/1987	30	30	0	0.00		0	0	0	0.00			0	0	0	0.00		0	0	0	3.00		308	0	308			
10/1/87-10/31/87	10/1/1987	10/31/1987	31	31	0	0.00		0	0	0	0.00			0	0	0	0.00		0	0	0	3.00		319	0	319			
11/1/87-11/30/87	11/1/1987	11/30/1987	30	30	0	0.00		0	0	0	0.00			0	0	0	0.00		0	0	0	2.00		206	0	206			
12/1/87-12/31/87	12/1/1987	12/31/1987	31	31	0	0.00		0	0	0	0.00			0	0	0	0.00		0	0	0	2.00		212	0	212			
			1,100					200,472	5,201	195,272				130,316	127,626	2,710			19,311	9,646	9,665			9,737	0	9,737			

Summed variable totals

		Chart 1: 1L	Chart 2: ATSDR	Chart 3: Deposition	Chart 4 Deposition/FM
	Cumulative ug/l-M	Cumulative consumption (total ug= days*concentration per L)	Cumulative consumption (total ug= days*concentration per ATSDR exposure assumptions)	Cumulative consumption (total ug= days*concentration per deposition exposure assumptions)	Cumulative consumption (total ug= days*concentration per deposition/FM exposure assumptions)
Hadnot Point					
TCE	1,997	56,998	247,534	127,207	195,272
PCE	27	791	3,435	1,765	2,710
VC	98	2,821	12,251	6,296	9,665
BZ	101	2,842	12,342	6,343	9,737
Terawa Terrace					
TCE	57	1,625	3,312	4,132	5,201
PCE	1,406	39,886	81,280	101,399	127,626
VC	106	3,015	6,143	7,664	9,646
BZ	0	0	0	0	0
Totals HP & TT					
TCE	2,054	58,623	250,846	131,339	200,472
PCE	1,433	40,677	84,716	103,164	130,336
VC	204	5,836	18,395	13,960	19,311
BZ	101	2,842	12,342	6,343	9,737

Appendix 22

Edgar Allen Peterson (Parkinson's Disease)

Exposure Dates	Total Days HP work	Start	Stop	Total Days HP residence	Total Days Pardise Point Residence (Holcomb Blvd)	HP TCE (ug/l-M)	PP TCE (ug/l-M)		HP PCE (ug/l-M)	PP PCE (ug/l-M)		HP VC (ug/l-M)	PP VC (ug/l-M)		HP BZ (ug/l-M)	PP BZ (ug/l-M)		
5/16/1975 - 5/31/1975	16	5/16/1975	5/31/1975	16	0	211.00			5.00			9.00			3.00			
6/1/1975 - 6/30/1975	30	6/1/1975	6/30/1975	30	0	260.00			7.00			11.00			2.00			
7/1/1975 - 7/31/1975	31	7/1/1975	7/31/1975	31	0	294.00			8.00			13.00			3.00			
8/1/1975 - 8/31/1975	31	8/1/1975	8/31/1975	31	0	368.00			10.00			16.00			3.00			
9/1/1975 - 9/30/1975	30	9/1/1975	9/30/1975	30	0	285.00			8.00			12.00			3.00			
10/1/1975 - 10/14/1975	14	10/1/1975	10/31/1975	14	0	61.00			1.00			2.00			3.00			
11/1/75 - 11/31/75	0	11/1/1975	11/30/1975	0	30	503.00	0.00		14.00	0.00		23.00	0.00		3.00	0.00		
12/1/75 - 12/31/75	0	12/1/1975	12/31/1975	0	31	451.00	0.00		13.00	0.00		20.00	0.00		3.00	0.00		
1/1/76 - 1/31/76	0	1/1/1976	1/31/1976	0	31	227.00	0.00		7.00	0.00		10.00	0.00		3.00	0.00		
2/1/76 - 2/29/76	0	2/1/1976	2/29/1976	0	29	317.00	0.00		10.00	0.00		14.00	0.00		3.00	0.00		
3/1/76 - 3/31/76	0	3/1/1976	3/31/1976	0	31	323.00	0.00		10.00	0.00		15.00	0.00		2.00	0.00		
4/1/76 - 4/29/76	0	4/1/1976	4/29/1976	0	29	212.00	0.00		6.00	0.00		9.00	0.00		4.00	0.00		
5/1/76 - 5/31/76	0	5/1/1976	5/31/1976	0	31	257.00	0.00		8.00	0.00		12.00	0.00		3.00	0.00		
6/1/76 - 6/31/76	0	6/1/1976	6/30/1976	0	30	314.00	1.00		10.00	0.00		15.00	0.00		3.00	0.00		
7/1/76 - 7/5/76	0	7/1/1976	7/31/1976	0	5	348.00	0.00		12.00	0.00		16.00	0.00		3.00	0.00		
7/6/76-7/31/76	26			26	0	348.00	0.00		12.00	0.00		16.00	0.00		3.00	0.00		
8/1/1976 - 8/31/1976	31	8/1/1976	8/31/1976	31	0	436.00	0.00		15.00	0.00		20.00	0.00		4.00	0.00		
9/1/1976 - 9/30/1976	30	9/1/1976	9/30/1976	30	0	336.00	0.00		11.00	0.00		16.00	0.00		3.00	0.00		
10/9/1976 - 10/31/1976	23	10/9/1976	10/31/1976	23	0	70.00	0.00		2.00	0.00		3.00	0.00		3.00	0.00		
11/1/1976 - 11/30/1976	30	11/1/1976	11/30/1976	30	0	543.00	0.00		19.00	0.00		26.00	0.00		4.00	0.00		
12/1/1976 - 12/31/1976	31	12/1/1976	12/31/1976	31	0	520.00	0.00		19.00	0.00		25.00	0.00		3.00	0.00		
1/1/1977 - 1/31/1977	31	1/1/1977	1/31/1977	31	0	249.00	0.00		9.00	0.00		12.00	0.00		4.00	0.00		
2/1/1977 - 2/28/1977	28	2/1/1977	2/28/1977	28	0	346.00	0.00		13.00	0.00		17.00	0.00		3.00	0.00		
3/1/1977 - 3/31/1977	31	3/1/1977	3/31/1977	31	0	342.00	0.00		13.00	0.00		17.00	0.00		2.00	0.00		
4/1/1977 - 4/30/1977	30	4/1/1977	4/30/1977	30	0	218.00	0.00		8.00	0.00		11.00	0.00		4.00	0.00		
5/1/1977 - 5/31/1977	31	5/1/1977	5/31/1977	31	0	264.00	1.00		10.00	0.00		13.00	0.00		3.00	0.00		
6/1/1977 - 6/15/1977	15	6/1/1977	6/15/1977	15	0	320.00	1.00		12.00	0.00		17.00	0.00		3.00	0.00		
	489			**489**	**247**	**8,075**	**3**		**260**	**0**		**374**	**0**		**80**	**0**		

Chart 1: Days on base and cumulative contaminant exposure concentrations (1 L consumption per day)

Exposure Dates	Total Days HP work	Start	Stop	Total Days HP residence	Total Days Pardise Point Residence (Holcomb Blvd)	HP TCE (ug/l-M)	PP TCE (ug/l-M)	Cumulative dose (work & residence)	HP PCE (ug/l-M)	PP PCE (ug/l-M)	Cumulative dose (work & residence)	HP VC (ug/l-M)	PP VC (ug/l-M)	Cumulative dose (work & residence)	HP BZ (ug/l-M)	PP BZ (ug/l-M)	Cumulative dose (work & residence)	1L concentration summaries
5/16/1975 - 5/31/1975	16	5/16/1975	5/31/1975	16	0	211.00		3376	5.00		80	9.00		144	3.00		48	**1**
6/1/1975 - 6/30/1975	30	6/1/1975	6/30/1975	30	0	260.00		7800	7.00		210	11.00		330	2.00		60	**0.667**
7/1/1975 - 7/31/1975	31	7/1/1975	7/31/1975	31	0	294.00		9114	8.00		248	13.00		403	3.00		93	**0.333**
8/1/1975 - 8/31/1975	31	8/1/1975	8/31/1975	31	0	368.00		11408	10.00		310	16.00		496	3.00		93	
9/1/1975 - 9/30/1975	30	9/1/1975	9/30/1975	30	0	285.00		8550	8.00		240	12.00		360	3.00		90	
10/1/1975 - 10/14/1975	14	10/1/1975	10/31/1975	14	0	61.00		854	1.00		14	2.00		28	3.00		42	
11/1/75 - 11/31/75	0	11/1/1975	11/30/1975	0	30	503.00	0.00	0	14.00	0.00	0	23.00	0.00	0	3.00	0.00	0	
12/1/75 - 12/31/75	0	12/1/1975	12/31/1975	0	31	451.00	0.00	0	13.00	0.00	0	20.00	0.00	0	3.00	0.00	0	
1/1/76 - 1/31/76	0	1/1/1976	1/31/1976	0	31	227.00	0.00	0	7.00	0.00	0	10.00	0.00	0	3.00	0.00	0	
2/1/76 - 2/29/76	0	2/1/1976	2/29/1976	0	29	317.00	0.00	0	10.00	0.00	0	14.00	0.00	0	3.00	0.00	0	

3/1/76 - 3/31/76	0	3/1/1976	3/31/1976	0	31	323.00	0.00	0	10.00	0.00	0	15.00	0.00	0	2.00	0.00	0
4/1/76 - 4/29/76	0	4/1/1976	4/29/1976	0	29	212.00	0.00	0	6.00	0.00	0	9.00	0.00	0	4.00	0.00	0
5/1/76 - 5/31/76	0	5/1/1976	5/31/1976	0	31	257.00	0.00	0	8.00	0.00	0	12.00	0.00	0	3.00	0.00	0
6/1/76 - 6/31/76	0	6/1/1976	6/30/1976	0	30	314.00	1.00	20	10.00	0.00	0	15.00	0.00	0	3.00	0.00	0
7/1/76 - 7/5/76	0	7/1/1976	7/31/1976	0	5	348.00	0.00	0	12.00	0.00	0	16.00	0.00	0	3.00	0.00	0
7/6/76-7/31/76	26			26	0	348.00	0.00	9048	12.00	0.00	312	16.00	0.00	416	3.00	0.00	78
8/1/1976 - 8/31/1976	31	8/1/1976	8/31/1976	31	0	436.00	0.00	13516	15.00	0.00	465	20.00	0.00	620	4.00	0.00	124
9/1/1976 - 9/30/1976	30	9/1/1976	9/30/1976	30	0	336.00	0.00	10080	11.00	0.00	330	16.00	0.00	480	3.00	0.00	90
10/1/1976 - 10/8/1976	0	10/1/1976	10/8/1976	0	0	0.00		0	0.00		0	0.00		0	0.00		0
10/9/1976 - 10/31/1976	23	10/9/1976	10/31/1976	23	0	70.00	0.00	1610	2.00	0.00	46	3.00	0.00	69	3.00	0.00	69
11/1/1976 - 11/30/1976	30	11/1/1976	11/30/1976	30	0	543.00	0.00	16290	19.00	0.00	570	26.00	0.00	780	4.00	0.00	120
12/1/1976 - 12/31/1976	31	12/1/1976	12/31/1976	31	0	520.00	0.00	16120	19.00	0.00	589	25.00	0.00	775	3.00	0.00	93
1/1/1977 - 1/31/1977	31	1/1/1977	1/31/1977	31	0	249.00	0.00	7719	9.00	0.00	279	12.00	0.00	372	4.00	0.00	124
2/1/1977 - 2/28/1977	28	2/1/1977	2/28/1977	28	0	346.00	0.00	9688	13.00	0.00	364	17.00	0.00	476	3.00	0.00	84
3/1/1977 - 3/31/1977	31	3/1/1977	3/31/1977	31	0	342.00	0.00	10602	13.00	0.00	403	17.00	0.00	527	2.00	0.00	62
4/1/1977 - 4/30/1977	30	4/1/1977	4/30/1977	30	0	218.00	0.00	6540	8.00	0.00	240	11.00	0.00	330	4.00	0.00	120
5/1/1977 - 5/31/1977	31	5/1/1977	5/31/1977	31	0	264.00	1.00	8184	10.00	0.00	310	13.00	0.00	403	3.00	0.00	93
6/1/1977 - 6/15/1977	15	6/1/1977	6/15/1977	15	0	320.00	1.00	4800	12.00	0.00	180	17.00	0.00	255	3.00	0.00	45
	489			**489**	**247**			**155,319**			**5,190**			**7,264**			**1,528**

Chart 2: ATSDR civilian worker RME (3.092 L consumption per day)

Exposure Dates	Total Days HP work	Start	Stop	Total Days HP residence	Total Days Pardise Point Residence (Holcomb Blvd)	HP TCE (ug/l-M)	PP TCE (ug/l-M)	Cumulative dose (work & residence)	HP PCE (ug/l-M)	PP PCE (ug/l-M)	Cumulative dose (work & residence)	HP VC (ug/l-M)	PP VC (ug/l-M)	Cumulative dose (work & residence)	HP BZ (ug/l-M)	PP BZ (ug/l-M)	Cumulative dose (work & residence)	ATSDR civilian worker RME
5/16/1975 - 5/31/1975	16	5/16/1975	5/31/1975	16	0	211.00		10439	5.00		247	9.00		445	3.00		148	**3.092**
6/1/1975 - 6/30/1975	30	6/1/1975	6/30/1975	30	0	260.00		24118	7.00		649	11.00		1020	2.00		186	**0.667**
7/1/1975 - 7/31/1975	31	7/1/1975	7/31/1975	31	0	294.00		28180	8.00		767	13.00		1246	3.00		288	**0.333**
8/1/1975 - 8/31/1975	31	8/1/1975	8/31/1975	31	0	368.00		35274	10.00		959	16.00		1534	3.00		288	
9/1/1975 - 9/30/1975	30	9/1/1975	9/30/1975	30	0	285.00		26437	8.00		742	12.00		1113	3.00		278	
10/1/1975 - 10/14/1975	14	10/1/1975	10/31/1975	14	0	61.00		2641	1.00		43	2.00		87	3.00		130	
11/1/75 - 11/31/75	0	11/1/1975	11/30/1975	0	30	503.00	0.00	0	14.00	0.00	0	23.00	0.00	0	3.00	0.00	0	
12/1/75 - 12/31/75	0	12/1/1975	12/31/1975	0	31	451.00	0.00	0	13.00	0.00	0	20.00	0.00	0	3.00	0.00	0	
1/1/76 - 1/31/76	0	1/1/1976	1/31/1976	0	31	227.00	0.00	0	7.00	0.00	0	10.00	0.00	0	3.00	0.00	0	
2/1/76 - 2/29/76	0	2/1/1976	2/29/1976	0	29	317.00	0.00	0	10.00	0.00	0	14.00	0.00	0	3.00	0.00	0	
3/1/76 - 3/31/76	0	3/1/1976	3/31/1976	0	31	323.00	0.00	0	10.00	0.00	0	15.00	0.00	0	2.00	0.00	0	
4/1/76 - 4/29/76	0	4/1/1976	4/29/1976	0	29	212.00	0.00	0	6.00	0.00	0	9.00	0.00	0	4.00	0.00	0	
5/1/76 - 5/31/76	0	5/1/1976	5/31/1976	0	31	257.00	0.00	0	8.00	0.00	0	12.00	0.00	0	3.00	0.00	0	
6/1/76 - 6/31/76	0	6/1/1976	6/30/1976	0	30	314.00	1.00	62	10.00	0.00	0	15.00	0.00	0	3.00	0.00	0	
7/1/76 - 7/5/76	0	7/1/1976	7/31/1976	0	5	348.00	0.00	0	12.00	0.00	0	16.00	0.00	0	3.00	0.00	0	
7/6/76-7/31/76	26			26	0	348.00	0.00	27976	12.00	0.00	965	16.00	0.00	1286	3.00	0.00	241	
8/1/1976 - 8/31/1976	31	8/1/1976	8/31/1976	31	0	436.00	0.00	41791	15.00	0.00	1438	20.00	0.00	1917	4.00	0.00	383	
9/1/1976 - 9/30/1976	30	9/1/1976	9/30/1976	30	0	336.00	0.00	31167	11.00	0.00	1020	16.00	0.00	1484	3.00	0.00	278	
10/1/1976 - 10/8/1976	0	10/1/1976	10/8/1976	0	0	0.00		0	0.00		0	0.00		0	0.00		0	
10/9/1976 - 10/31/1976	23	10/9/1976	10/31/1976	23	0	70.00	0.00	4978	2.00	0.00	142	3.00	0.00	213	3.00	0.00	213	
11/1/1976 - 11/30/1976	30	11/1/1976	11/30/1976	30	0	543.00	0.00	50369	19.00	0.00	1762	26.00	0.00	2412	4.00	0.00	371	
12/1/1976 - 12/31/1976	31	12/1/1976	12/31/1976	31	0	520.00	0.00	49843	19.00	0.00	1821	25.00	0.00	2396	3.00	0.00	288	
1/1/1977 - 1/31/1977	31	1/1/1977	1/31/1977	31	0	249.00	0.00	23867	9.00	0.00	863	12.00	0.00	1150	4.00	0.00	383	
2/1/1977 - 2/28/1977	28	2/1/1977	2/28/1977	28	0	346.00	0.00	29955	13.00	0.00	1125	17.00	0.00	1472	3.00	0.00	260	

3/1/1977 - 3/31/1977	31	3/1/1977	3/31/1977	31	0	342.00	0.00	32781	13.00	0.00	1246	17.00	0.00	1629	2.00	0.00	192
4/1/1977 - 4/30/1977	30	4/1/1977	4/30/1977	30	0	218.00	0.00	20222	8.00	0.00	742	11.00	0.00	1020	4.00	0.00	371
5/1/1977 - 5/31/1977	31	5/1/1977	5/31/1977	31	0	264.00	1.00	25305	10.00	0.00	959	13.00	0.00	1246	3.00	0.00	288
6/1/1977 - 6/15/1977	15	6/1/1977	6/15/1977	15	0	320.00	1.00	14842	12.00	0.00	557	17.00	0.00	788	3.00	0.00	139
	489			**489**	**247**			**480,246**			**16,047**			**22,460**			**4,725**

Chart 3: ATSDR civilian worker CTE (1.227 L consumption per day)

Exposure Dates	Total Days HP work	Start	Stop	Total Days HP residence	Total Days Pardise Point Residence (Holcomb Blvd)	HP TCE (ug/l-M)	PP TCE (ug/l-M)	Cumulative dose (work & residence)	HP PCE (ug/l-M)	PP PCE (ug/l-M)	Cumulative dose (work & residence)	HP VC (ug/l-M)	PP VC (ug/l-M)	Cumulative dose (work & residence)	HP BZ (ug/l-M)	PP BZ (ug/l-M)	Cumulative dose (work & residence)	ATSDR civilian worker CTE
5/16/1975 - 5/31/1975	16	5/16/1975	5/31/1975	16	0	211.00		4142	5.00		98	9.00		177	3.00		59	**1.227**
6/1/1975 - 6/30/1975	30	6/1/1975	6/30/1975	30	0	260.00		9571	7.00		258	11.00		405	2.00		74	**0.667**
7/1/1975 - 7/31/1975	31	7/1/1975	7/31/1975	31	0	294.00		11183	8.00		304	13.00		494	3.00		114	**0.333**
8/1/1975 - 8/31/1975	31	8/1/1975	8/31/1975	31	0	368.00		13998	10.00		380	16.00		609	3.00		114	
9/1/1975 - 9/30/1975	30	9/1/1975	9/30/1975	30	0	285.00		10491	8.00		294	12.00		442	3.00		110	
10/1/1975 - 10/14/1975	14	10/1/1975	10/31/1975	14	0	61.00		1048	1.00		17	2.00		34	3.00		52	
11/1/75 - 11/31/75	0	11/1/1975	11/30/1975	0	30	503.00	0.00	0	14.00	0.00	0	23.00	0.00	0	3.00	0.00	0	
12/1/75 - 12/31/75	0	12/1/1975	12/31/1975	0	31	451.00	0.00	0	13.00	0.00	0	20.00	0.00	0	3.00	0.00	0	
1/1/76 - 1/31/76	0	1/1/1976	1/31/1976	0	31	227.00	0.00	0	7.00	0.00	0	10.00	0.00	0	3.00	0.00	0	
2/1/76 - 2/29/76	0	2/1/1976	2/29/1976	0	29	317.00	0.00	0	10.00	0.00	0	14.00	0.00	0	3.00	0.00	0	
3/1/76 - 3/31/76	0	3/1/1976	3/31/1976	0	31	323.00	0.00	0	10.00	0.00	0	15.00	0.00	0	2.00	0.00	0	
4/1/76 - 4/29/76	0	4/1/1976	4/29/1976	0	29	212.00	0.00	0	6.00	0.00	0	9.00	0.00	0	4.00	0.00	0	
5/1/76 - 5/31/76	0	5/1/1976	5/31/1976	0	31	257.00	0.00	0	8.00	0.00	0	12.00	0.00	0	3.00	0.00	0	
6/1/76 - 6/31/76	0	6/1/1976	6/30/1976	0	30	314.00	1.00	25	10.00	0.00	0	15.00	0.00	0	3.00	0.00	0	
7/1/76 - 7/5/76	0	7/1/1976	7/31/1976	0	5	348.00	0.00	0	12.00	0.00	0	16.00	0.00	0	3.00	0.00	0	
7/6/76-7/31/76	26			26	0	348.00	0.00	11102	12.00	0.00	383	16.00	0.00	510	3.00	0.00	96	
8/1/1976 - 8/31/1976	31	8/1/1976	8/31/1976	31	0	436.00	0.00	16584	15.00	0.00	571	20.00	0.00	761	4.00	0.00	152	
9/1/1976 - 9/30/1976	30	9/1/1976	9/30/1976	30	0	336.00	0.00	12368	11.00	0.00	405	16.00	0.00	589	3.00	0.00	110	
10/1/1976 - 10/8/1976	0	10/1/1976	10/8/1976	0	0	0.00		0	0.00		0	0.00		0	0.00		0	
10/9/1976 - 10/31/1976	23	10/9/1976	10/31/1976	23	0	70.00	0.00	1975	2.00	0.00	56	3.00	0.00	85	3.00	0.00	85	
11/1/1976 - 11/30/1976	30	11/1/1976	11/30/1976	30	0	543.00	0.00	19988	19.00	0.00	699	26.00	0.00	957	4.00	0.00	147	
12/1/1976 - 12/31/1976	31	12/1/1976	12/31/1976	31	0	520.00	0.00	19779	19.00	0.00	723	25.00	0.00	951	3.00	0.00	114	
1/1/1977 - 1/31/1977	31	1/1/1977	1/31/1977	31	0	249.00	0.00	9471	9.00	0.00	342	12.00	0.00	456	4.00	0.00	152	
2/1/1977 - 2/28/1977	28	2/1/1977	2/28/1977	28	0	346.00	0.00	11887	13.00	0.00	447	17.00	0.00	584	3.00	0.00	103	
3/1/1977 - 3/31/1977	31	3/1/1977	3/31/1977	31	0	342.00	0.00	13009	13.00	0.00	494	17.00	0.00	647	2.00	0.00	76	
4/1/1977 - 4/30/1977	30	4/1/1977	4/30/1977	30	0	218.00	0.00	8025	8.00	0.00	294	11.00	0.00	405	4.00	0.00	147	
5/1/1977 - 5/31/1977	31	5/1/1977	5/31/1977	31	0	264.00	1.00	10042	10.00	0.00	380	13.00	0.00	494	3.00	0.00	114	
6/1/1977 - 6/15/1977	15	6/1/1977	6/15/1977	15	0	320.00	1.00	5890	12.00	0.00	221	17.00	0.00	313	3.00	0.00	55	
	489			**489**	**247**			**190,576**			**6,368**			**8,913**			**1,875**	

Chart 4: FM 1957-1983 light activity (desk work, guard/KP duty), moderate day, desert/tropical <80oF (5.2049 L consumption per day)

Exposure Dates	Total Days HP work	Start	Stop	Total Days HP residence	Total Days Pardise Point Residence (Holcomb Blvd)	HP TCE (ug/l-M)	PP TCE (ug/l-M)	Cumulative dose (work & residence)	HP PCE (ug/l-M)	PP PCE (ug/l-M)	Cumulative dose (work & residence)	HP VC (ug/l-M)	PP VC (ug/l-M)	Cumulative dose (work & residence)	HP BZ (ug/l-M)	PP BZ (ug/l-M)	Cumulative dose (work & residence)	FM 1957-1983 light activity (desk work, guard/KP duty), moderate day, desert/tropical <80oF

5/16/1975 - 5/31/1975	16	5/16/1975	5/31/1975	16	0	211.00		17572	5.00		416	9.00		750	3.00		250	5.2049
6/1/1975 - 6/30/1975	30	6/1/1975	6/30/1975	30	0	260.00		40598	7.00		1093	11.00		1718	2.00		312	0.667
7/1/1975 - 7/31/1975	31	7/1/1975	7/31/1975	31	0	294.00		47437	8.00		1291	13.00		2098	3.00		484	0.333
8/1/1975 - 8/31/1975	31	8/1/1975	8/31/1975	31	0	368.00		59377	10.00		1614	16.00		2582	3.00		484	
9/1/1975 - 9/30/1975	30	9/1/1975	9/30/1975	30	0	285.00		44502	8.00		1249	12.00		1874	3.00		468	
10/1/1975 - 10/14/1975	14	10/1/1975	10/31/1975	14	0	61.00		4445	1.00		73	2.00		146	3.00		219	
11/1/75 - 11/31/75	0	11/1/1975	11/30/1975	0	30	503.00	0.00	0	14.00	0.00	0	23.00	0.00	0	3.00	0.00	0	
12/1/75 - 12/31/75	0	12/1/1975	12/31/1975	0	31	451.00	0.00	0	13.00	0.00	0	20.00	0.00	0	3.00	0.00	0	
1/1/76 - 1/31/76	0	1/1/1976	1/31/1976	0	31	227.00	0.00	0	7.00	0.00	0	10.00	0.00	0	3.00	0.00	0	
2/1/76 - 2/29/76	0	2/1/1976	2/29/1976	0	29	317.00	0.00	0	10.00	0.00	0	14.00	0.00	0	3.00	0.00	0	
3/1/76 - 3/31/76	0	3/1/1976	3/31/1976	0	31	323.00	0.00	0	10.00	0.00	0	15.00	0.00	0	2.00	0.00	0	
4/1/76 - 4/29/76	0	4/1/1976	4/29/1976	0	29	212.00	0.00	0	6.00	0.00	0	9.00	0.00	0	4.00	0.00	0	
5/1/76 - 5/31/76	0	5/1/1976	5/31/1976	0	31	257.00	0.00	0	8.00	0.00	0	12.00	0.00	0	3.00	0.00	0	
6/1/76 - 6/31/76	0	6/1/1976	6/30/1976	0	30	314.00	1.00	104	10.00	0.00	0	15.00	0.00	0	3.00	0.00	0	
7/1/76 - 7/5/76	0	7/1/1976	7/31/1976	0	5	348.00	0.00	0	12.00	0.00	0	16.00	0.00	0	3.00	0.00	0	
7/6/76-7/31/76	26			26	0	436.00	0.00	59003	15.00	0.00	2030	20.00	0.00	2707	4.00	0.00	541	
8/1/1976 - 8/31/1976	31	8/1/1976	8/31/1976	31	0	336.00	0.00	54214	11.00	0.00	1775	16.00	0.00	2582	3.00	0.00	484	
9/1/1976 - 9/30/1976	30	9/1/1976	9/30/1976	30	0	0.00		0	0.00		0	0.00		0	0.00		0	
10/1/1976 - 10/8/1976	0	10/1/1976	10/8/1976	0	0	70.00	0.00	0	2.00	0.00	0	3.00	0.00	0	3.00	0.00	0	
10/9/1976 - 10/31/1976	23	10/9/1976	10/31/1976	23	0	543.00	0.00	65004	19.00	0.00	2275	26.00	0.00	3113	4.00	0.00	479	
11/1/1976 - 11/30/1976	30	11/1/1976	11/30/1976	30	0	520.00	0.00	81196	19.00	0.00	2967	25.00	0.00	3904	3.00	0.00	468	
12/1/1976 - 12/31/1976	31	12/1/1976	12/31/1976	31	0	249.00	0.00	40177	9.00	0.00	1452	12.00	0.00	1936	4.00	0.00	645	
1/1/1977 - 1/31/1977	31	1/1/1977	1/31/1977	31	0	346.00	0.00	55828	13.00	0.00	2098	17.00	0.00	2743	3.00	0.00	484	
2/1/1977 - 2/28/1977	28	2/1/1977	2/28/1977	28	0	342.00	0.00	49842	13.00	0.00	1895	17.00	0.00	2478	2.00	0.00	291	
3/1/1977 - 3/31/1977	31	3/1/1977	3/31/1977	31	0	218.00	0.00	35175	8.00	0.00	1291	11.00	0.00	1775	4.00	0.00	645	
4/1/1977 - 4/30/1977	30	4/1/1977	4/30/1977	30	0	264.00	1.00	41223	10.00	0.00	1561	13.00	0.00	2030	3.00	0.00	468	
5/1/1977 - 5/31/1977	31	5/1/1977	5/31/1977	31	0	320.00	1.00	51633	12.00	0.00	1936	17.00	0.00	2743	3.00	0.00	484	
6/1/1977 - 6/15/1977	15	6/1/1977	6/15/1977	15	0			0			0			0			0	
	489			**489**	**247**			**747,330**			**25,015**			**35,175**			**7,209**	

Summed variable totals

		Chart 1: 1L	Chart 2: ATSDR civilian worker RME (3.092 L consumption per day)	Chart 3: ATSDR civilian worker CTE (1.227 L consumption per day)	Chart 4: FM 1957-1983 light activity (desk work, guard/KP duty), moderate day, desert/tropical <80oF (5.2049 L consumption per day)
	Cumulative ug/l-M	Cumulative consumption (total ug= days*concentration per L)	Cumulative consumption (total ug= days*concentration per ATSDR exposure assumptions)	Cumulative consumption (total ug= days*concentration per ATSDR exposure assumptions)	Cumulative consumption (total ug= days*concentration per deposition/FM exposure assumptions)
TCE	8,078	155,319	480,246	190,576	747,330
PCE	260	5,190	16,047	6,368	25,015
VC	374	7,264	22,460	8,913	35,175
BZ	80	1,528	4,725	1,875	7,209

Appendix 23

Diane Rothchild (Parkinson's Disease)

Exposure Dates	Total Days	Start	Stop	Checked Days	TT TCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	TT PCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	TT VC (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	TT BZ (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)
7/1/1973 - 7/31/1973	0	7/1/1973	7/31/1973	0	0.00		0.00		0.00		0.00	
8/1/1973 - 8/14/1973	14	8/1/1973	8/14/1973	14	1.64		41.53		2.23		0.00	
8/20/1973 - 8/31/1973	11	8/20/1973	8/31/1973	11	1.64		41.53		2.23		0.00	
9/1/1973 - 9/30/1973*	29	9/1/1973	9/30/1973	29	1.63		41.27		2.22		0.00	
10/1/1973 -10/31/1973	31	10/1/1973	10/31/1973	31	1.62		41.01		2.21		0.00	
11/1/1973 - 11/30/1973*	27	11/1/1973	11/30/1973	27	1.61		40.75		2.20		0.00	
12/1/1973 - 12/31/1973*	22.5	12/1/1973	12/31/1973	22.5	1.60		40.48		2.19		0.00	
1/1/1974 - 1/30/1974*	28	1/1/1974	1/30/1974	28	1.59		40.22		2.17		0.00	
2/1/1974 - 2/28/1974	28	2/1/1974	2/28/1974	28	1.59		40.13		2.17		0.00	
3/1/1974 - 3/31/1974	31	3/1/1974	3/31/1974	31	1.58		40.10		2.16		0.00	
4/1/1974 - 4/30/1974	30	4/1/1974	4/30/1974	30	1.59		40.20		2.17		0.00	
5/1/1974 - 5/31/1974*	30	5/1/1974	5/31/1974	30	1.60		40.35		2.18		0.00	
6/1/1974 - 6/14/1974	14	6/1/1974	6/14/1974	14	1.61		40.59		2.21		0.00	
8/14/1974 - 8/31/1974	17	8/14/1974	8/31/1974	17	1.63		41.08		2.27		0.00	
9/1/1974 - 9/30/1974	29	9/1/1974	9/30/1974	29	1.64		41.35		2.31		0.00	
10/1/1974 -10/31/1974	31	10/1/1974	10/31/1974	31	1.65		41.61		2.34		0.00	
11/1/1974 - 11/30/1974*	27	11/1/1974	11/30/1974	27	1.67		41.91		2.39		0.00	
12/1/1974 - 12/31/1974*	22.5	12/1/1974	12/31/1974	22.5	1.68		42.19		2.43		0.00	
1/1/1975 - 1/31/1975	29	1/1/1975	1/31/1975	29	1.74		43.76		2.55		0.00	
	451			**451**	**28**		**699**		**38**		**0**	

*No information about holiday school breaks for Thanksgiving, Christmas, or New Years

Chart 1: Days on base and cumulative contaminant exposure concentrations (1 L consumption per day)

Exposure Dates	Total Days	Start	Stop	Checked Days	TT TCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	TT PCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	TT VC (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	TT BZ (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	1L concentration summaries
8/21/1972 - 8/31/1972	10	8/21/1972	8/31/1972	11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**1**
9/1/1972 - 9/30/1972	30	9/1/1972	9/30/1972	30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
10/1/1972 - 10/31/1972	31	10/1/1972	10/31/1972	31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
11/1/1972 - 11/30/1972	30	11/1/1972	11/30/1972	30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
12/1/1972 - 12/31/1972	31	12/1/1972	12/31/1972	31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1/1/1973 - 1/30/1973	30	1/1/1973	1/30/1973	30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2/1/1973 - 2/28/1973	28	2/1/1973	2/28/1973	28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3/1/1973 - 3/31/1973	31	3/1/1973	3/31/1973	31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4/1/1973 - 4/30/1973	30	4/1/1973	4/30/1973	30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5/1/1973 - 5/31/1973	31	5/1/1973	5/31/1973	31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
6/1/1973 - 6/18/1973	18	6/1/1973	6/18/1973	18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
7/1/1973 - 7/31/1973	0	7/1/1973	7/31/1973	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

8/1/1973 - 8/14/1973	14	8/1/1973	8/14/1973	14	1.64	7.65	41.53	193.81	2.23	10.41	0.00	0.00
8/20/1973 - 8/31/1973	11	8/20/1973	8/31/1973	11	1.64	6.01	41.53	152.28	2.23	8.18	0.00	0.00
9/1/1973 - 9/30/1973*	29	9/1/1973	9/30/1973	29	1.63	15.76	41.27	398.94	2.22	21.46	0.00	0.00
10/1/1973 -10/31/1973	31	10/1/1973	10/31/1973	31	1.62	16.74	41.01	423.77	2.21	22.84	0.00	0.00
11/1/1973 - 11/30/1973*	27	11/1/1973	11/30/1973	27	1.61	14.49	40.75	366.75	2.20	19.80	0.00	0.00
12/1/1973 - 12/31/1973*	23	12/1/1973	12/31/1973	23	1.60	12.00	40.48	303.60	2.19	16.43	0.00	0.00
1/1/1974 - 1/30/1974*	28	1/1/1974	1/30/1974	28	1.59	14.84	40.22	375.39	2.17	20.25	0.00	0.00
2/1/1974 - 2/28/1974	28	2/1/1974	2/28/1974	28	1.59	14.84	40.13	374.55	2.17	20.25	0.00	0.00
3/1/1974 - 3/31/1974	31	3/1/1974	3/31/1974	31	1.58	16.33	40.10	414.37	2.16	22.32	0.00	0.00
4/1/1974 - 4/30/1974	30	4/1/1974	4/30/1974	30	1.59	15.90	40.20	402.00	2.17	21.70	0.00	0.00
5/1/1974 - 5/31/1974*	30	5/1/1974	5/31/1974	30	1.60	16.00	40.35	403.50	2.18	21.80	0.00	0.00
6/1/1974 - 6/14/1974	14	6/1/1974	6/14/1974	14	1.61	7.51	40.59	189.42	2.21	10.31	0.00	0.00
6/15/1974 - 6/30/1974	0	6/15/1974	6/30/1974	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7/1/1974 - 7/31/1974	0	7/1/1974	7/31/1974	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8/1/1974 - 8/13/1974	0	8/1/1974	8/13/1974	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8/14/1974 - 8/31/1974	17	8/14/1974	8/31/1974	17	1.63	9.24	41.08	232.79	2.27	12.86	0.00	0.00
9/1/1974 - 9/30/1974	29	9/1/1974	9/30/1974	29	1.64	15.85	41.35	399.72	2.31	22.33	0.00	0.00
10/1/1974 -10/31/1974	31	10/1/1974	10/31/1974	31	1.65	17.05	41.61	429.97	2.34	24.18	0.00	0.00
11/1/1974 - 11/30/1974*	27	11/1/1974	11/30/1974	27	1.67	15.03	41.91	377.19	2.39	21.51	0.00	0.00
12/1/1974 - 12/31/1974*	23	12/1/1974	12/31/1974	23	1.68	12.60	42.19	316.43	2.43	18.23	0.00	0.00
1/1/1975 - 1/31/1975	29	1/1/1975	1/31/1975	29	1.74	16.82	43.76	423.01	2.55	24.65	0.00	0.00
	451			**451**		**245**		**6,177**		**340**		**0**

Chart 2: ATSDR civilian worker RME (3.092 L consumption per day)

Exposure Dates	Total Days	Start	Stop	Checked Days	TT TCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	TT PCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	TT VC (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	TT BZ (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	ATSDR civilian worker RME
8/21/1972 - 8/31/1972	10	8/21/1972	8/31/1972	11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**3.092**
9/1/1972 - 9/30/1972	30	9/1/1972	9/30/1972	30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
10/1/1972 - 10/31/1972	31	10/1/1972	10/31/1972	31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
11/1/1972 - 11/30/1972	30	11/1/1972	11/30/1972	30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
12/1/1972 - 12/31/1972	31	12/1/1972	12/31/1972	31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1/1/1973 - 1/30/1973	30	1/1/1973	1/30/1973	30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2/1/1973 - 2/28/1973	28	2/1/1973	2/28/1973	28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3/1/1973 - 3/31/1973	31	3/1/1973	3/31/1973	31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4/1/1973 - 4/30/1973	30	4/1/1973	4/30/1973	30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5/1/1973 - 5/31/1973	31	5/1/1973	5/31/1973	31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
6/1/1973 - 6/18/1973	18	6/1/1973	6/18/1973	18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
7/1/1973 - 7/31/1973	0	7/1/1973	7/31/1973	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
8/1/1973 - 8/14/1973	14	8/1/1973	8/14/1973	14	1.64	23.66	41.53	599.25	2.23	32.18	0.00	0.00	
8/20/1973 - 8/31/1973	11	8/20/1973	8/31/1973	11	1.64	18.59	41.53	470.84	2.23	25.28	0.00	0.00	
9/1/1973 - 9/30/1973*	29	9/1/1973	9/30/1973	29	1.63	48.72	41.27	1233.53	2.22	66.35	0.00	0.00	
10/1/1973 -10/31/1973	31	10/1/1973	10/31/1973	31	1.62	51.76	41.01	1310.30	2.21	70.61	0.00	0.00	
11/1/1973 - 11/30/1973*	27	11/1/1973	11/30/1973	27	1.61	44.80	40.75	1133.99	2.20	61.22	0.00	0.00	
12/1/1973 - 12/31/1973*	23	12/1/1973	12/31/1973	23	1.60	37.10	40.48	938.73	2.19	50.79	0.00	0.00	

1/1/1974 - 1/30/1974*	28	1/1/1974	1/30/1974	28	1.59	45.89	40.22	1160.70	2.17	62.62	0.00	0.00
2/1/1974 - 2/28/1974	28	2/1/1974	2/28/1974	28	1.59	45.89	40.13	1158.10	2.17	62.62	0.00	0.00
3/1/1974 - 3/31/1974	31	3/1/1974	3/31/1974	31	1.58	50.48	40.10	1281.22	2.16	69.01	0.00	0.00
4/1/1974 - 4/30/1974	30	4/1/1974	4/30/1974	30	1.59	49.16	40.20	1242.98	2.17	67.10	0.00	0.00
5/1/1974 - 5/31/1974*	30	5/1/1974	5/31/1974	30	1.60	49.47	40.35	1247.62	2.18	67.41	0.00	0.00
6/1/1974 - 6/14/1974	14	6/1/1974	6/14/1974	14	1.61	23.23	40.59	585.69	2.21	31.89	0.00	0.00
6/15/1974 - 6/30/1974	0	6/15/1974	6/30/1974	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7/1/1974 - 7/31/1974	0	7/1/1974	7/31/1974	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8/1/1974 - 8/13/1974	0	8/1/1974	8/13/1974	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8/14/1974 - 8/31/1974	17	8/14/1974	8/31/1974	17	1.63	28.56	41.08	719.78	2.27	39.77	0.00	0.00
9/1/1974 - 9/30/1974	29	9/1/1974	9/30/1974	29	1.64	49.02	41.35	1235.92	2.31	69.04	0.00	0.00
10/1/1974 -10/31/1974	31	10/1/1974	10/31/1974	31	1.65	52.72	41.61	1329.47	2.34	74.76	0.00	0.00
11/1/1974 - 11/30/1974*	27	11/1/1974	11/30/1974	27	1.67	46.47	41.91	1166.27	2.39	66.51	0.00	0.00
12/1/1974 - 12/31/1974*	23	12/1/1974	12/31/1974	23	1.68	38.96	42.19	978.39	2.43	56.35	0.00	0.00
1/1/1975 - 1/31/1975	29	1/1/1975	1/31/1975	29	1.74	52.01	43.76	1307.96	2.55	76.22	0.00	0.00
	451			**451**		**756**		**19,101**		**1,050**		**0**

Chart 3: ATSDR civilian worker CTE (1.227 L consumption per day)

Exposure Dates	Total Days	Start	Stop	Checked Days	TT TCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	TT PCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	TT VC (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	TT BZ (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	ATSDR civilian worker CTE
8/21/1972 - 8/31/1972	10	8/21/1972	8/31/1972	11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**1.227**
9/1/1972 - 9/30/1972	30	9/1/1972	9/30/1972	30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
10/1/1972 - 10/31/1972	31	10/1/1972	10/31/1972	31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
11/1/1972 - 11/30/1972	30	11/1/1972	11/30/1972	30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
12/1/1972 - 12/31/1972	31	12/1/1972	12/31/1972	31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1/1/1973 - 1/30/1973	30	1/1/1973	1/30/1973	30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2/1/1973 - 2/28/1973	28	2/1/1973	2/28/1973	28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3/1/1973 - 3/31/1973	31	3/1/1973	3/31/1973	31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4/1/1973 - 4/30/1973	30	4/1/1973	4/30/1973	30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5/1/1973 - 5/31/1973	31	5/1/1973	5/31/1973	31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
6/1/1973 - 6/18/1973	18	6/1/1973	6/18/1973	18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
7/1/1973 - 7/31/1973	0	7/1/1973	7/31/1973	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
8/1/1973 - 8/14/1973	14	8/1/1973	8/14/1973	14	1.64	9.39	41.53	237.80	2.23	12.77	0.00	0.00	
8/20/1973 - 8/31/1973	11	8/20/1973	8/31/1973	11	1.64	7.38	41.53	186.84	2.23	10.03	0.00	0.00	
9/1/1973 - 9/30/1973*	29	9/1/1973	9/30/1973	29	1.63	19.33	41.27	489.50	2.22	26.33	0.00	0.00	
10/1/1973 -10/31/1973	31	10/1/1973	10/31/1973	31	1.62	20.54	41.01	519.97	2.21	28.02	0.00	0.00	
11/1/1973 - 11/30/1973*	27	11/1/1973	11/30/1973	27	1.61	17.78	40.75	450.00	2.20	24.29	0.00	0.00	
12/1/1973 - 12/31/1973*	23	12/1/1973	12/31/1973	23	1.60	14.72	40.48	372.52	2.19	20.15	0.00	0.00	
1/1/1974 - 1/30/1974*	28	1/1/1974	1/30/1974	28	1.59	18.21	40.22	460.60	2.17	24.85	0.00	0.00	
2/1/1974 - 2/28/1974	28	2/1/1974	2/28/1974	28	1.59	18.21	40.13	459.57	2.17	24.85	0.00	0.00	
3/1/1974 - 3/31/1974	31	3/1/1974	3/31/1974	31	1.58	20.03	40.10	508.43	2.16	27.39	0.00	0.00	
4/1/1974 - 4/30/1974	30	4/1/1974	4/30/1974	30	1.59	19.51	40.20	493.25	2.17	26.63	0.00	0.00	
5/1/1974 - 5/31/1974*	30	5/1/1974	5/31/1974	30	1.60	19.63	40.35	495.09	2.18	26.75	0.00	0.00	
6/1/1974 - 6/14/1974	14	6/1/1974	6/14/1974	14	1.61	9.22	40.59	232.42	2.21	12.65	0.00	0.00	

6/15/1974 - 6/30/1974	0	6/15/1974	6/30/1974	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7/1/1974 - 7/31/1974	0	7/1/1974	7/31/1974	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8/1/1974 - 8/13/1974	0	8/1/1974	8/13/1974	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8/14/1974 - 8/31/1974	17	8/14/1974	8/31/1974	17	1.63	11.33	41.08	285.63	2.27	15.78	0.00	0.00
9/1/1974 - 9/30/1974	29	9/1/1974	9/30/1974	29	1.64	19.45	41.35	490.45	2.31	27.40	0.00	0.00
10/1/1974 -10/31/1974	31	10/1/1974	10/31/1974	31	1.65	20.92	41.61	527.57	2.34	29.67	0.00	0.00
11/1/1974 - 11/30/1974*	27	11/1/1974	11/30/1974	27	1.67	18.44	41.91	462.81	2.39	26.39	0.00	0.00
12/1/1974 - 12/31/1974*	23	12/1/1974	12/31/1974	23	1.68	15.46	42.19	388.25	2.43	22.36	0.00	0.00
1/1/1975 - 1/31/1975	29	1/1/1975	1/31/1975	29	1.74	20.64	43.76	519.04	2.55	30.25	0.00	0.00
	451			**451**		**300**		**7,580**		**417**		**0**

Chart 4: ATSDR civilian worker marine in training (4.334 L consumption per day)

Exposure Dates	Total Days	Start	Stop	Checked Days	TT TCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	TT PCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	TT VC (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	TT BZ (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	ATSDR civilian worker marine in training
8/21/1972 - 8/31/1972	10	8/21/1972	8/31/1972	11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**4.334**
9/1/1972 - 9/30/1972	30	9/1/1972	9/30/1972	30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
10/1/1972 - 10/31/1972	31	10/1/1972	10/31/1972	31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
11/1/1972 - 11/30/1972	30	11/1/1972	11/30/1972	30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
12/1/1972 - 12/31/1972	31	12/1/1972	12/31/1972	31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1/1/1973 - 1/30/1973	30	1/1/1973	1/30/1973	30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2/1/1973 - 2/28/1973	28	2/1/1973	2/28/1973	28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3/1/1973 - 3/31/1973	31	3/1/1973	3/31/1973	31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4/1/1973 - 4/30/1973	30	4/1/1973	4/30/1973	30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5/1/1973 - 5/31/1973	31	5/1/1973	5/31/1973	31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
6/1/1973 - 6/18/1973	18	6/1/1973	6/18/1973	18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
7/1/1973 - 7/31/1973	0	7/1/1973	7/31/1973	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
8/1/1973 - 8/14/1973	14	8/1/1973	8/14/1973	14	1.64	33.17	41.53	839.96	2.23	45.10	0.00	0.00	
8/20/1973 - 8/31/1973	11	8/20/1973	8/31/1973	11	1.64	26.06	41.53	659.97	2.23	35.44	0.00	0.00	
9/1/1973 - 9/30/1973*	29	9/1/1973	9/30/1973	29	1.63	68.29	41.27	1729.02	2.22	93.01	0.00	0.00	
10/1/1973 -10/31/1973	31	10/1/1973	10/31/1973	31	1.62	72.55	41.01	1836.62	2.21	98.97	0.00	0.00	
11/1/1973 - 11/30/1973*	27	11/1/1973	11/30/1973	27	1.61	62.80	40.75	1589.49	2.20	85.81	0.00	0.00	
12/1/1973 - 12/31/1973*	23	12/1/1973	12/31/1973	23	1.60	52.01	40.48	1315.80	2.19	71.19	0.00	0.00	
1/1/1974 - 1/30/1974*	28	1/1/1974	1/30/1974	28	1.59	64.32	40.22	1626.93	2.17	87.78	0.00	0.00	
2/1/1974 - 2/28/1974	28	2/1/1974	2/28/1974	28	1.59	64.32	40.13	1623.29	2.17	87.78	0.00	0.00	
3/1/1974 - 3/31/1974	31	3/1/1974	3/31/1974	31	1.58	70.76	40.10	1795.87	2.16	96.73	0.00	0.00	
4/1/1974 - 4/30/1974	30	4/1/1974	4/30/1974	30	1.59	68.91	40.20	1742.27	2.17	94.05	0.00	0.00	
5/1/1974 - 5/31/1974*	30	5/1/1974	5/31/1974	30	1.60	69.34	40.35	1748.77	2.18	94.48	0.00	0.00	
6/1/1974 - 6/14/1974	14	6/1/1974	6/14/1974	14	1.61	32.56	40.59	820.95	2.21	44.70	0.00	0.00	
6/15/1974 - 6/30/1974	0	6/15/1974	6/30/1974	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
7/1/1974 - 7/31/1974	0	7/1/1974	7/31/1974	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
8/1/1974 - 8/13/1974	0	8/1/1974	8/13/1974	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
8/14/1974 - 8/31/1974	17	8/14/1974	8/31/1974	17	1.63	40.03	41.08	1008.90	2.27	55.75	0.00	0.00	
9/1/1974 - 9/30/1974	29	9/1/1974	9/30/1974	29	1.64	68.71	41.35	1732.37	2.31	96.78	0.00	0.00	
10/1/1974 -10/31/1974	31	10/1/1974	10/31/1974	31	1.65	73.89	41.61	1863.49	2.34	104.80	0.00	0.00	

11/1/1974 - 11/30/1974*	27	11/1/1974	11/30/1974	27	1.67	65.14	41.91	1634.74	2.39	93.22	0.00	0.00
12/1/1974 - 12/31/1974*	23	12/1/1974	12/31/1974	23	1.68	54.61	42.19	1371.39	2.43	78.99	0.00	0.00
1/1/1975 - 1/31/1975	29	1/1/1975	1/31/1975	29	1.74	72.90	43.76	1833.34	2.55	106.83	0.00	0.00
	451			**451**		**1,060**		**26,773**		**1,471**		**0**

Chart 5: FM 1957-1983 light activity (desk work, guard/KP duty), moderate day, desert/tropical <80oF (5.2049 L consumption per day)

Exposure Dates	Total Days	Start	Stop	Checked Days	TT TCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	TT PCE (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	TT VC (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	TT BZ (ug/l-M)	Cumulative consumption (total ug= days*concentration per L)	FM 1957-1983 light activity (desk work, guard/KP duty), moderate day, desert/tropical <80oF
8/21/1972 - 8/31/1972	10	8/21/1972	8/31/1972	11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**5.2049**
9/1/1972 - 9/30/1972	30	9/1/1972	9/30/1972	30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
10/1/1972 - 10/31/1972	31	10/1/1972	10/31/1972	31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
11/1/1972 - 11/30/1972	30	11/1/1972	11/30/1972	30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
12/1/1972 - 12/31/1972	31	12/1/1972	12/31/1972	31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1/1/1973 - 1/30/1973	30	1/1/1973	1/30/1973	30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2/1/1973 - 2/28/1973	28	2/1/1973	2/28/1973	28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3/1/1973 - 3/31/1973	31	3/1/1973	3/31/1973	31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4/1/1973 - 4/30/1973	30	4/1/1973	4/30/1973	30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5/1/1973 - 5/31/1973	31	5/1/1973	5/31/1973	31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
6/1/1973 - 6/18/1973	18	6/1/1973	6/18/1973	18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
7/1/1973 - 7/31/1973	0	7/1/1973	7/31/1973	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
8/1/1973 - 8/14/1973	14	8/1/1973	8/14/1973	14	1.64	31.30	41.53	1008.74	2.23	54.17	0.00	0.00	
8/20/1973 - 8/31/1973	11	8/20/1973	8/31/1973	11	1.64	31.30	41.53	792.58	2.23	42.56	0.00	0.00	
9/1/1973 - 9/30/1973*	29	9/1/1973	9/30/1973	29	1.63	82.01	41.27	2076.46	2.22	111.70	0.00	0.00	
10/1/1973 -10/31/1973	31	10/1/1973	10/31/1973	31	1.62	87.13	41.01	2205.68	2.21	118.86	0.00	0.00	
11/1/1973 - 11/30/1973*	27	11/1/1973	11/30/1973	27	1.61	75.42	40.75	1908.90	2.20	103.06	0.00	0.00	
12/1/1973 - 12/31/1973*	23	12/1/1973	12/31/1973	23	1.60	62.46	40.48	1580.21	2.19	85.49	0.00	0.00	
1/1/1974 - 1/30/1974*	28	1/1/1974	1/30/1974	28	1.59	77.24	40.22	1953.85	2.17	105.42	0.00	0.00	
2/1/1974 - 2/28/1974	28	2/1/1974	2/28/1974	28	1.59	77.24	40.13	1949.48	2.17	105.42	0.00	0.00	
3/1/1974 - 3/31/1974	31	3/1/1974	3/31/1974	31	1.58	84.98	40.10	2156.74	2.16	116.17	0.00	0.00	
4/1/1974 - 4/30/1974	30	4/1/1974	4/30/1974	30	1.59	82.76	40.20	2092.37	2.17	112.95	0.00	0.00	
5/1/1974 - 5/31/1974*	30	5/1/1974	5/31/1974	30	1.60	83.28	40.35	2100.18	2.18	113.47	0.00	0.00	
6/1/1974 - 6/14/1974	14	6/1/1974	6/14/1974	14	1.61	39.11	40.59	985.91	2.21	53.68	0.00	0.00	
6/15/1974 - 6/30/1974	0	6/15/1974	6/30/1974	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
7/1/1974 - 7/31/1974	0	7/1/1974	7/31/1974	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
8/1/1974 - 8/13/1974	0	8/1/1974	8/13/1974	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
8/14/1974 - 8/31/1974	17	8/14/1974	8/31/1974	17	1.63	48.08	41.08	1211.63	2.27	66.95	0.00	0.00	
9/1/1974 - 9/30/1974	29	9/1/1974	9/30/1974	29	1.64	82.52	41.35	2080.49	2.31	116.23	0.00	0.00	
10/1/1974 -10/31/1974	31	10/1/1974	10/31/1974	31	1.65	88.74	41.61	2237.95	2.34	125.85	0.00	0.00	
11/1/1974 - 11/30/1974*	27	11/1/1974	11/30/1974	27	1.67	78.23	41.91	1963.24	2.39	111.96	0.00	0.00	
12/1/1974 - 12/31/1974*	23	12/1/1974	12/31/1974	23	1.68	65.58	42.19	1646.96	2.43	94.86	0.00	0.00	
1/1/1975 - 1/31/1975	29	1/1/1975	1/31/1975	29	1.74	87.55	43.76	2201.74	2.55	128.30	0.00	0.00	
	451			**451**		**1,265**		**32,153**		**1,767**		**0**	

Summed variable totals

		Chart 1: 1L	Chart 2: ATSDR civilian worker RME (3.092 L consumption per day)	Chart 3: ATSDR civilian worker CTE (1.227 L consumption per day)	Chart 4: ATSDR civilian worker marine in training (4.334 L consumption per day)	Chart 5: FM 1957-1983 light activity (desk work, guard/KP duty), moderate day, desert/tropical <80oF (5.2049 L consumption
	Cumulative ug/l-M	Cumulative consumption (total ug= days*concentration per L)	Cumulative consumption (total ug= days*concentration per ATSDR exposure assumptions)	Cumulative consumption (total ug= days*concentration per ATSDR exposure assumptions)	Cumulative consumption (total ug= days*concentration per ATSDR exposure assumptions)	Cumulative consumption (total ug= days*concentration per deposition/FM exposure assumptions)
TCE	28	245	756	300	1,060	1,265
PCE	699	6,177	19,101	7,580	26,773	32,153
VC	38	340	1,050	417	1,471	1,767
BZ	0	0	0	0	0	0

Appendix 24

Richard Sparks Jr. (Parkinson's Disease)

Exposure Dates	Total Days	Start	Stop	total days at HP	total routine work days at HP	heavy training days	HP TCE (ug/l-M)	Cumulative dose (ug/L)	HP PCE (ug/l-M)	Cumulative dose (ug/L)	HP VC (ug/l-M)	Cumulative dose (ug/L)	HP BZ (ug/l-M)	Cumulative dose (ug/L)
3/25/1974 - 3/31/74	6	3/25/1974	3/31/1974	7	6.93	0.07	163		3		7		2	
4/1/1974 - 4/30/1974	30	4/1/1974	4/30/1974	30	29.72	0.28	116		2		5		3	
5/1/1974 - 5/31/74	31	5/1/1974	5/31/1974	31	30.71	0.29	142		2		6		2	
6/1/1974 - 6/30/1974	30	6/1/1974	6/30/1974	30	29.72	0.28	179		3		8		2	
7/1/1974 - 7/31/1974	31	7/1/1974	7/31/1974	31	30.71	0.29	209		4		9		2	
8/1/1974 - 8/31/1974	31	8/1/1974	8/31/1974	31	30.71	0.29	274		5		12		3	
9/1/1974 - 9/30/1974	30	9/1/1974	9/30/1974	30	29.72	0.28	217		4		9		3	
10/1/1974 - 10/31/1974	31	10/1/1974	10/31/1974	31	30.71	0.29	50		1		2		3	
11/1/1974 - 11/30/1974	30	11/1/1974	11/30/1974	30	29.72	0.28	399		8		17		3	
12/1/1974 - 12/31/1974	31	12/1/1974	12/31/1974	31	30.71	0.29	369		8		15		3	
1/1/1975 - 1/20/1975	20	1/1/1975	1/20/1975	20	19.81	0.19	179		4		7		3	
1/21/1975 - 1/31/1975	0	1/21/1975	1/31/1975	0	0.00	0.00	0		0		0		0	
2/1/1975 - 2/5/1975	0	2/1/1975	2/5/1975	0	0.00	0.00	0		0		0		0	
2/6/1975 - 2/28/1975	22	2/6/1975	2/28/1975	23	22.78	0.22	252		6		11		3	
3/1/1975 - 3/31/1975	31	3/1/1975	3/31/1975	31	30.71	0.29	261		6		11		2	
4/1/1975 - 4/30/1975	30	4/1/1975	4/30/1975	30	29.72	0.28	174		4		7		3	
5/1/1975 - 5/31/1975	31	5/1/1975	5/31/1975	31	30.71	0.29	211		5		9		3	
	415			**417**	**413.08**	**3.92**	**3,195**		**65**		**135**		**40**	

*regular PT 3x per week; forced run 1x/3-4 months
*2 cups coffee daily- pre-prepared
*1 L water per day with lunch and other times, from tap or hose
*quantitative data recall minimal- use standard exposure assumptions for marine in training.

106.4583 number of days for 1x training sequence=average days in a month heavy training day every 3.5 months
3.92 number of heavy training days while in service= total days on base/sequence of event
0.01 proportionate heavy training event per day averaged over total time on base given uncertainty of when heavy training activity occurred.

Chart 1: Days on base and cumulative contaminant exposure concentrations (1 L consumption per day)

Exposure Dates	Total Days	Start	Stop	total days at HP	total routine work days at HP	heavy training days	HP TCE (ug/l-M)	Cumulative dose (ug/L)	HP PCE (ug/l-M)	Cumulative dose (ug/L)	HP VC (ug/l-M)	Cumulative dose (ug/L)	HP BZ (ug/l-M)	Cumulative dose (ug/L)	1L concentration summaries
3/25/1974 - 3/31/74	6	3/25/1974	3/31/1974	7	6.93	0.07	163	1141	3	21	7	49	2	14	**1**
4/1/1974 - 4/30/1974	30	4/1/1974	4/30/1974	30	29.72	0.28	116	3480	2	60	5	150	3	90	
5/1/1974 - 5/31/74	31	5/1/1974	5/31/1974	31	30.71	0.29	142	4402	2	62	6	186	2	62	
6/1/1974 - 6/30/1974	30	6/1/1974	6/30/1974	30	29.72	0.28	179	5370	3	90	8	240	2	60	
7/1/1974 - 7/31/1974	31	7/1/1974	7/31/1974	31	30.71	0.29	209	6479	4	124	9	279	2	62	
8/1/1974 - 8/31/1974	31	8/1/1974	8/31/1974	31	30.71	0.29	274	8494	5	155	12	372	3	93	
9/1/1974 - 9/30/1974	30	9/1/1974	9/30/1974	30	29.72	0.28	217	6510	4	120	9	270	3	90	
10/1/1974 - 10/31/1974	31	10/1/1974	10/31/1974	31	30.71	0.29	50	1550	1	31	2	62	3	93	
11/1/1974 - 11/30/1974	30	11/1/1974	11/30/1974	30	29.72	0.28	399	11970	8	240	17	510	3	90	
12/1/1974 - 12/31/1974	31	12/1/1974	12/31/1974	31	30.71	0.29	369	11439	8	248	15	465	3	93	
1/1/1975 - 1/20/1975	20	1/1/1975	1/20/1975	20	19.81	0.19	179	3580	4	80	7	140	3	60	
1/21/1975 - 1/31/1975	0	1/21/1975	1/31/1975	0	0.00	0.00	0	0	0	0	0	0	0	0	
2/1/1975 - 2/5/1975	0	2/1/1975	2/5/1975	0	0.00	0.00	0	0	0	0	0	0	0	0	
2/6/1975 - 2/28/1975	22	2/6/1975	2/28/1975	23	22.78	0.22	252	5796	6	138	11	253	3	69	
3/1/1975 - 3/31/1975	31	3/1/1975	3/31/1975	31	30.71	0.29	261	8091	6	186	11	341	2	62	
4/1/1975 - 4/30/1975	30	4/1/1975	4/30/1975	30	29.72	0.28	174	5220	4	120	7	210	3	90	
5/1/1975 - 5/31/1975	31	5/1/1975	5/31/1975	31	30.71	0.29	211	6541	5	155	9	279	3	93	
	415			**417**	**413.08**	**3.92**		**90,063**		**1,830**		**3,806**		**1,121**	

Chart 4: ATSDR marine in training (4.334 L consumption per day)

Exposure Dates	Total Days	Start	Stop	total days at HP	total routine work days at HP	heavy training days	HP TCE (ug/l-M)	Cumulative dose (ug/L)	HP PCE (ug/l-M)	Cumulative dose (ug/L)	HP VC (ug/l-M)	Cumulative dose (ug/L)	HP BZ (ug/l-M)	Cumulative dose (ug/L)	ATSDR marine in training
3/25/1974 - 3/31/74	6	3/25/1974	3/31/1974	7	6.93	0.07	163	4945	3	91	7	212	2	61	**4.334**
4/1/1974 - 4/30/1974	30	4/1/1974	4/30/1974	30	29.72	0.28	116	15082	2	260	5	650	3	390	
5/1/1974 - 5/31/74	31	5/1/1974	5/31/1974	31	30.71	0.29	142	19078	2	269	6	806	2	269	
6/1/1974 - 6/30/1974	30	6/1/1974	6/30/1974	30	29.72	0.28	179	23274	3	390	8	1040	2	260	
7/1/1974 - 7/31/1974	31	7/1/1974	7/31/1974	31	30.71	0.29	209	28080	4	537	9	1209	2	269	
8/1/1974 - 8/31/1974	31	8/1/1974	8/31/1974	31	30.71	0.29	274	36813	5	672	12	1612	3	403	
9/1/1974 - 9/30/1974	30	9/1/1974	9/30/1974	30	29.72	0.28	217	28214	4	520	9	1170	3	390	
10/1/1974 - 10/31/1974	31	10/1/1974	10/31/1974	31	30.71	0.29	50	6718	1	134	2	269	3	403	
11/1/1974 - 11/30/1974	30	11/1/1974	11/30/1974	30	29.72	0.28	399	51878	8	1040	17	2210	3	390	
12/1/1974 - 12/31/1974	31	12/1/1974	12/31/1974	31	30.71	0.29	369	49577	8	1075	15	2015	3	403	
1/1/1975 - 1/20/1975	20	1/1/1975	1/20/1975	20	19.81	0.19	179	15516	4	347	7	607	3	260	
1/21/1975 - 1/31/1975	0	1/21/1975	1/31/1975	0	0.00	0.00	0	0	0	0	0	0	0	0	
2/1/1975 - 2/5/1975	0	2/1/1975	2/5/1975	0	0.00	0.00	0	0	0	0	0	0	0	0	
2/6/1975 - 2/28/1975	22	2/6/1975	2/28/1975	23	22.78	0.22	252	25120	6	598	11	1097	3	299	
3/1/1975 - 3/31/1975	31	3/1/1975	3/31/1975	31	30.71	0.29	261	35066	6	806	11	1478	2	269	
4/1/1975 - 4/30/1975	30	4/1/1975	4/30/1975	30	29.72	0.28	174	22623	4	520	7	910	3	390	
5/1/1975 - 5/31/1975	31	5/1/1975	5/31/1975	31	30.71	0.29	211	28349	5	672	9	1209	3	403	
	415			**417**	**413.08**	**3.92**		**390,333**		**7,931**		**16,495**		**4,858**	

Chart 2: Days on base and cumulative contaminant exposure concentrations (ATSDR ingestion 6L/day for X number of field days per month and 3.1L per day remaining days per month)

Exposure Dates	Total Days	Start	Stop	total days at HP	total routine work days at HP	heavy training days	HP TCE (ug/l-M)	Cumulative dose (ug/L)	HP PCE (ug/l-M)	Cumulative dose (ug/L)	HP VC (ug/l-M)	Cumulative dose (ug/L)	HP BZ (ug/l-M)	Cumulative dose (ug/L)	ingestion (L)	Ingestion exposure notes
3/25/1974 - 3/31/74	6	3/25/1974	3/31/1974	7	6.93	0.07	163	3568	3	66	7	153	2	44	6.0	ATSDR ingestion 6L/day for X number of field days per month
4/1/1974 - 4/30/1974	30	4/1/1974	4/30/1974	30	29.72	0.28	116	10883	2	188	5	469	3	281	3.1	3.1L per day remaining days per month)
5/1/1974 - 5/31/74	31	5/1/1974	5/31/1974	31	30.71	0.29	142	13766	2	194	6	582	2	194		
6/1/1974 - 6/30/1974	30	6/1/1974	6/30/1974	30	29.72	0.28	179	16793	3	281	8	751	2	188		
7/1/1974 - 7/31/1974	31	7/1/1974	7/31/1974	31	30.71	0.29	209	20261	4	388	9	873	2	194		
8/1/1974 - 8/31/1974	31	8/1/1974	8/31/1974	31	30.71	0.29	274	26563	5	485	12	1163	3	291		
9/1/1974 - 9/30/1974	30	9/1/1974	9/30/1974	30	29.72	0.28	217	20358	4	375	9	844	3	281		
10/1/1974 - 10/31/1974	31	10/1/1974	10/31/1974	31	30.71	0.29	50	4847	1	97	2	194	3	291		
11/1/1974 - 11/30/1974	30	11/1/1974	11/30/1974	30	29.72	0.28	399	37433	8	751	17	1595	3	281		
12/1/1974 - 12/31/1974	31	12/1/1974	12/31/1974	31	30.71	0.29	369	35773	8	776	15	1454	3	291		
1/1/1975 - 1/20/1975	20	1/1/1975	1/20/1975	20	19.81	0.19	179	11196	4	250	7	438	3	188		
1/21/1975 - 1/31/1975	0	1/21/1975	1/31/1975	0	0.00	0.00	0	0	0	0	0	0	0	0		
2/1/1975 - 2/5/1975	0	2/1/1975	2/5/1975	0	0.00	0.00	0	0	0	0	0	0	0	0		
2/6/1975 - 2/28/1975	22	2/6/1975	2/28/1975	23	22.78	0.22	252	18125	6	432	11	791	3	216		
3/1/1975 - 3/31/1975	31	3/1/1975	3/31/1975	31	30.71	0.29	261	25303	6	582	11	1066	2	194		
4/1/1975 - 4/30/1975	30	4/1/1975	4/30/1975	30	29.72	0.28	174	16324	4	375	7	657	3	281		
5/1/1975 - 5/31/1975	31	5/1/1975	5/31/1975	31	30.71	0.29	211	20455	5	485	9	873	3	291		
	415			**417**	**413.08**	**3.92**		**281,649**		**5,723**		**11,902**		**3,506**		

Chart 4: Days on base and cumulative contaminant exposure concentrations- deposition informed activities; FM 1957-1983 moderate day averages

Exposure Dates	Total Days	Start	Stop	total days at HP	total routine work days at HP	heavy training days	HP TCE (ug/l-M)	Cumulative dose (ug/L)	HP PCE (ug/l-M)	Cumulative dose (ug/L)	HP VC (ug/l-M)	Cumulative dose (ug/L)	HP BZ (ug/l-M)	Cumulative dose (ug/L)	ingestion (L)	Ingestion exposure notes
3/25/1974 - 3/31/74	6	3/25/1974	3/31/1974	7	6.93	0.07	163	5974	3	110	7	257	2	73	8.52	deposition informed field days and FM ingestion volumes
4/1/1974 - 4/30/1974	30	4/1/1974	4/30/1974	30	29.72	0.28	116	18222	2	314	5	785	3	471	5.21	FM ingestion for remaining routine/light days per month
5/1/1974 - 5/31/74	31	5/1/1974	5/31/1974	31	30.71	0.29	142	23049	2	325	6	974	2	325		
6/1/1974 - 6/30/1974	30	6/1/1974	6/30/1974	30	29.72	0.28	179	28118	3	471	8	1257	2	314		
7/1/1974 - 7/31/1974	31	7/1/1974	7/31/1974	31	30.71	0.29	209	33925	4	649	9	1461	2	325		
8/1/1974 - 8/31/1974	31	8/1/1974	8/31/1974	31	30.71	0.29	274	44476	5	812	12	1948	3	487		
9/1/1974 - 9/30/1974	30	9/1/1974	9/30/1974	30	29.72	0.28	217	34087	4	628	9	1414	3	471		
10/1/1974 - 10/31/1974	31	10/1/1974	10/31/1974	31	30.71	0.29	50	8116	1	162	2	325	3	487		
11/1/1974 - 11/30/1974	30	11/1/1974	11/30/1974	30	29.72	0.28	399	62677	8	1257	17	2670	3	471		
12/1/1974 - 12/31/1974	31	12/1/1974	12/31/1974	31	30.71	0.29	369	59896	8	1299	15	2435	3	487		
1/1/1975 - 1/20/1975	20	1/1/1975	1/20/1975	20	19.81	0.19	179	18745	4	419	7	733	3	314		
1/21/1975 - 1/31/1975	0	1/21/1975	1/31/1975	0	0.00	0.00	0	0	0	0	0	0	0	0		
2/1/1975 - 2/5/1975	0	2/1/1975	2/5/1975	0	0.00	0.00	0	0	0	0	0	0	0	0		
2/6/1975 - 2/28/1975	22	2/6/1975	2/28/1975	23	22.78	0.22	252	30349	6	723	11	1325	3	361		
3/1/1975 - 3/31/1975	31	3/1/1975	3/31/1975	31	30.71	0.29	261	42366	6	974	11	1786	2	325		
4/1/1975 - 4/30/1975	30	4/1/1975	4/30/1975	30	29.72	0.28	174	27333	4	628	7	1100	3	471		
5/1/1975 - 5/31/1975	31	5/1/1975	5/31/1975	31	30.71	0.29	211	34250	5	812	9	1461	3	487		
	415			**417**	**413.08**	**3.92**		**471,582**		**9,582**		**19,929**		**5,870**		

Summed variable totals

		Chart 1: 1L	Chart 2: ATSDR marine in training	Chart 3: Deposition informed activity days and ATSDR 6L & 3L exposures	Chart 4 Deposition informed activity days and FM heavy/light activity related ingestion volumes
	Cumulative ug/l-M	Cumulative consumption (total ug= days*concentration per L)	Cumulative consumption (total ug= days*concentration per ATSDR exposure assumptions)	Cumulative consumption (total ug= days*concentration per deposition exposure assumptions)	Cumulative consumption (total ug= days*concentration per deposition/FM exposure assumptions)
Hadnot Point					
TCE	3,195	90,063	390,333	281,649	471,582
PCE	65	1,830	7,931	5,723	9,582
VC	135	3,806	16,495	11,902	19,929
BZ	40	1,121	4,858	3,506	5,870

Appendix 25

Robert Welch (Parkinson's Disease)

Exposure Dates	Total Days	Start	Stop	Total Days HP work		Total days HP residence: Field days per month	Total Days TT residence	HP TCE (ug/L-M)	TT TCE (ug/L-M)	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	HP PCE (ug/L-M)	TT PCE (ug/L-M)	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	HP VC (ug/L-M)	TT VC (ug/LM)	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	HP BZ (ug/LM)	TT BZ (ug/L-M)	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	Ingestion (L)	Ingestion exposure notes
11/18/1970 - 11/30/1970	12	11/18/1970	11/30/1970	13		0.404	12.596	25	2				0	45				0	2				3	0					
12/1/1970 - 12/31/1970	31	12/1/1970	12/31/1970	31		0.963	30.037	22	2				0	44				0	2				2	0					
1/1/1971 - 1/31/1971	0	1/1/1971	1/31/1971	0		0.000	0.000	0	0				0	0				0	0				0	0					
2/1/1971 - 2/28/1971	0	2/1/1971	2/28/1971	0		0.000	0.000	0	0				0	0				0	0				0	0					
3/1/1971 - 3/11/1971	0	3/1/1971	3/11/1971	0		0.000	0.000	0	0				0	0				0	0				0	0					
3/12/1971 - 3/31/1971	20	3/12/1971	3/31/1971	20		0.621	19.379	17	2				0	44				0	2				2	0					*drank coffee at work (6-8 cups) and home in the morning; and a glass of water at home; water before (1 glass) and after (2 glasses) running; 1 glass with each meal
4/1/1971 - 4/30/1971	30	4/1/1971	4/30/1971	30		0.932	29.068	24	2				0	44				0	2				3	0					
5/1/1971 - 5/31/1971	31	5/1/1971	5/31/1971	31		0.963	30.037	19	2				0	44				0	2				2	0					
6/1/1971 - 6/30/1971	30	6/1/1971	6/30/1971	30		0.932	29.068	19	2				0	44				0	2				2	0					
7/1/1971 - 7/31/1971	31	7/1/1971	7/31/1971	31		0.963	30.037	19	2				0	44				0	2				2	0					
8/1/1971 - 8/31/1971	31	8/1/1971	8/31/1971	31		0.963	30.037	24	2				0	43				0	2				3	0					
9/1/1971 - 9/30/1971	30	9/1/1971	9/30/1971	30		0.932	29.068	21	2				0	43				0	2				2	0					
10/1/1971 - 10/31/1971	31	10/1/1971	10/31/1971	31		0.963	30.037	22	2				0	43				0	2				2	0					
11/1/1971 - 11/30/1971	30	11/1/1971	11/30/1971	30		0.932	29.068	25	2				0	43				0	2				3	0					
12/1/1971 - 12/15/1971	15	12/1/1971	12/15/1971	15		0.466	14.534	22	2				0	43				0	2				3	0					
	322			323		10	313	259	21				0	524				0	28				29	0					

Exposure estimate 10 days (.031056proportion days per month)per year in field training:

time	product	number	(ounces ea)	volume per day
field	glasses evv	16	12	5.678112
			Sum	5.678112

Exposure estimate all other days not in field training:

time	product	number	(ounces ea)	volume per day
breakfast	water	3	12	1.064645
daily	coffee	7	10	2.070145
before run	water	1	12	0.354882
after run	water	2	12	0.709764
			Sum	4.199437

Chart 1: Days on base and cumulative contaminant exposure concentrations (1L consumption per day)

Exposure Dates	Total Days	Start	Stop	Total Days HP work		Total days HP residence: Field days per month	Total Days TT residence	HP TCE (ug/L-M)	TT TCE (ug/L-M)	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	HP PCE (ug/L-M)	TT PCE (ug/L-M)	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	HP VC (ug/L-M)	TT VC (ug/LM)	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	HP BZ (ug/LM)	TT BZ (ug/L-M)	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	Ingestion (L)	Ingestion exposure notes
11/18/1970 - 11/30/1970	12	11/18/1970	11/30/1970	13		0.404	12.596	25	2	347	22	325	0	45	562	562	0	0	2	30	30	0	3	0	39	0	39	1.000	assume 1L from source regardless of activity or residence proportion
12/1/1970 - 12/31/1970	31	12/1/1970	12/31/1970	31		0.963	30.037	22	2	715	53	682	0	44	1333	1333	0	0	2	71	71	0	2	0	62	0	62		
1/1/1971 - 1/31/1971	0	1/1/1971	1/31/1971	0		0.000	0.000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
2/1/1971 - 2/28/1971	0	2/1/1971	2/28/1971	0		0.000	0.000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
3/1/1971 - 3/11/1971	0	3/1/1971	3/11/1971	0		0.000	0.000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
3/12/1971 - 3/31/1971	20	3/12/1971	3/31/1971	20		0.621	19.379	17	2	374	34	340	0	44	890	890	0	0	2	45	45	0	2	0	40	0	40		
4/1/1971 - 4/30/1971	30	4/1/1971	4/30/1971	30		0.932	29.068	24	2	771	51	720	0	44	1272	1272	0	0	2	68	68	0	3	0	90	0	90		
5/1/1971 - 5/31/1971	31	5/1/1971	5/31/1971	31		0.963	30.037	19	2	641	52	589	0	44	1311	1311	0	0	2	70	70	0	2	0	62	0	62		
6/1/1971 - 6/30/1971	30	6/1/1971	6/30/1971	30		0.932	29.068	19	2	620	50	570	0	44	1267	1267	0	0	2	68	68	0	2	0	60	0	60		
7/1/1971 - 7/31/1971	31	7/1/1971	7/31/1971	31		0.963	30.037	19	2	641	52	589	0	44	1308	1308	0	0	2	70	70	0	2	0	62	0	62		
8/1/1971 - 8/31/1971	31	8/1/1971	8/31/1971	31		0.963	30.037	24	2	796	52	744	0	43	1306	1306	0	0	2	70	70	0	3	0	93	0	93		
9/1/1971 - 9/30/1971	30	9/1/1971	9/30/1971	30		0.932	29.068	21	2	680	50	630	0	43	1262	1262	0	0	2	68	68	0	2	0	60	0	60		
10/1/1971 - 10/31/1971	31	10/1/1971	10/31/1971	31		0.963	30.037	22	2	734	52	682	0	43	1302	1302	0	0	2	70	70	0	2	0	62	0	62		
11/1/1971 - 11/30/1971	30	11/1/1971	11/30/1971	30		0.932	29.068	25	2	800	50	750	0	43	1259	1259	0	0	2	68	68	0	3	0	90	0	90		
12/1/1971 - 12/15/1971	15	12/1/1971	12/15/1971	15		0.466	14.534	22	2	355	25	330	0	43	629	629	0	0	2	34	34	0	3	0	45	0	45		
	322			323		10	313			7,494	543	6,951			13,660	13,660	0			732	732	0			765	0	765		

Chart 2: Days on base and cumulative contaminant exposure concentrations (ATSDR ingestion 6L/day for X number of field days per month and 3.1L per day remaining days per month)

Exposure Dates	Total Days	Start	Stop	Total Days HP work	Total routine work days HP	Total days HP residence: Field days per month	Total Days TT residence	HP TCE (ug/L-M)	TT TCE (ug/L-M)	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	HP PCE (ug/L-M)	TT PCE (ug/L-M)	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	HP VC (ug/L-M)	TT VC (ug/LM)	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	HP BZ (ug/LM)	TT BZ (ug/L-M)	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	Ingestion (L)	Ingestion exposure notes
11/18/1970 - 11/30/1970	12	11/18/1970	11/30/1970	13	12.596	0.404	12.596	25	2	432	46	386	0	45	1161	1161	0	0	2	62	62	0	3	0	46	0	46	6.0	ATSDR ingestion 6L/day for X number of field days per month
12/1/1970 - 12/31/1970	31	12/1/1970	12/31/1970	31	30.037	0.963	30.037	22	2	919	110	809	0	44	2796	2796	0	0	2	148	148	0	2	0	74	0	74	3.1	3.1L per day remaining days per month)
1/1/1971 - 1/31/1971	0	1/1/1971	1/31/1971	0	0.000	0.000	0.000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.000	HP Field day proportion
2/1/1971 - 2/28/1971	0	2/1/1971	2/28/1971	0	0.000	0.000	0.000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.000	Residential proportion day on field days
3/1/1971 - 3/11/1971	0	3/1/1971	3/11/1971	0	0.000	0.000	0.000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.333	HP Light/non field day ingestion proportion days
3/12/1971 - 3/31/1971	20	3/12/1971	3/31/1971	20	19.379	0.621	19.379	17	2	473	70	403	0	44	1757	1757	0	0	2	94	94	0	2	0	47	0	47	0.667	Residential proportion day on light NON-training days
4/1/1971 - 4/30/1971	30	4/1/1971	4/30/1971	30	29.068	0.932	29.068	24	2	969	105	864	0	44	2630	2630	0	0	2	141	141	0	3	0	107	0	107		
5/1/1971 - 5/31/1971	31	5/1/1971	5/31/1971	31	30.037	0.963	30.037	19	2	807	108	699	0	44	2732	2732	0	0	2	145	145	0	2	0	74	0	74		
6/1/1971 - 6/30/1971	30	6/1/1971	6/30/1971	30	29.068	0.932	29.068	19	2	760	104	676	0	44	2621	2621	0	0	2	140	140	0	2	0	71	0	71		
7/1/1971 - 7/31/1971	31	7/1/1971	7/31/1971	31	30.037	0.963	30.037	19	2	806	107	699	0	44	2704	2704	0	0	2	145	145	0	2	0	74	0	74		
8/1/1971 - 8/31/1971	31	8/1/1971	8/31/1971	31	30.037	0.963	30.037	24	2	990	107	883	0	43	2700	2700	0	0	2	145	145	0	3	0	130	0	130		
9/1/1971 - 9/30/1971	30	9/1/1971	9/30/1971	30	29.068	0.932	29.068	21	2	852	104	748	0	43	2609	2609	0	0	2	140	140	0	2	0	71	0	71		
10/1/1971 - 10/31/1971	31	10/1/1971	10/31/1971	31	30.037	0.963	30.037	22	2	916	107	809	0	43	2692	2692	0	0	2	145	145	0	2	0	74	0	74		
11/1/1971 - 11/30/1971	30	11/1/1971	11/30/1971	30	29.068	0.932	29.068	25	2	993	103	890	0	43	2603	2603	0	0	2	140	140	0	3	0	107	0	107		
12/1/1971 - 12/15/1971	15	12/1/1971	12/15/1971	15	14.534	0.466	14.534	22	2	443	53	392	0	43	1100	1100	0	0	2	70	70	0	3	0	53	0	53		
	322			323	10	313				9,371	1,123	8,248			24,345	24,345	0			1,514	1,514	0			908	0	908		

Chart 3: Days on base and cumulative contaminant exposure concentrations- deposition informed activities/ingestion

Exposure Dates	Total Days	Start	Stop	Total Days HP work		Total days HP residence: Field days per month	Total Days TT residence	HP TCE (ug/L-M)	TT TCE (ug/L-M)	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	HP PCE (ug/L-M)	TT PCE (ug/L-M)	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	HP VC (ug/L-M)	TT VC (ug/LM)	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	HP BZ (ug/LM)	TT BZ (ug/L-M)	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	Ingestion (L)	Ingestion exposure notes
11/18/1970 - 11/30/1970	12	11/18/1970	11/30/1970	13	12.596	0.404	12.596	25.00	2	560	63	498	0	45	1573	1573	0	0	2	84	84	0	3	0	60	0	60	5.678	deposition informed ingestion for X number of field days per month
12/1/1970 - 12/31/1970	31	12/1/1970	12/31/1970	31	30.037	0.963	30.037	22	2	1,193	149	1044	0	44	3733	3733	0	0	2	200	200	0	2	0	95	0	95	4.199	deposition informed ingestion for remaining days per month
1/1/1971 - 1/31/1971	0	1/1/1971	1/31/1971	0	0.000	0.000	0.000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.000	HP Field day proportion
2/1/1971 - 2/28/1971	0	2/1/1971	2/28/1971	0	0.000	0.000	0.000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.000	Residential proportion day on field days
3/1/1971 - 3/11/1971	0	3/1/1971	3/11/1971	0	0.000	0.000	0.000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.333	HP Light/non field day ingestion proportion days
3/12/1971 - 3/31/1971	20	3/12/1971	3/31/1971	20	19.379	0.621	19.379	17	2	615	94	521	0	44	2281	2281	0	0	2	127	127	0	2	0	61	0	61	0.667	Residential proportion day on light NON-training days
4/1/1971 - 4/30/1971	30	4/1/1971	4/30/1971	30	29.068	0.932	29.068	24	2	1,244	142	1,103	0	44	3563	3563	0	0	2	191	191	0	3	0	138	0	138		
5/1/1971 - 5/31/1971	31	5/1/1971	5/31/1971	31	30.037	0.963	30.037	19	2	1,048	146	902	0	44	3673	3673	0	0	2	196	196	0	2	0	95	0	95		
6/1/1971 - 6/30/1971	30	6/1/1971	6/30/1971	30	29.068	0.932	29.068	19	2	1,014	141	873	0	44	3590	3590	0	0	2	190	190	0	2	0	92	0	92		
7/1/1971 - 7/31/1971	31	7/1/1971	7/31/1971	31	30.037	0.963	30.037	19	2	1,048	146	902	0	44	3682	3682	0	0	2	196	196	0	2	0	95	0	95		
8/1/1971 - 8/31/1971	31	8/1/1971	8/31/1971	31	30.037	0.963	30.037	24	2	1,285	146	1,139	0	43	3657	3657	0	0	2	196	196	0	3	0	142	0	142		
9/1/1971 - 9/30/1971	30	9/1/1971	9/30/1971	30	29.068	0.932	29.068	21	2	1,206	141	965	0	43	3534	3534	0	0	2	190	190	0	2	0	92	0	92		
10/1/1971 - 10/31/1971	31	10/1/1971	10/31/1971	31	30.037	0.963	30.037	22	2	1,189	145	1,044	0	43	3647	3647	0	0	2	196	196	0	2	0	95	0	95		
11/1/1971 - 11/30/1971	30	11/1/1971	11/30/1971	30	29.068	0.932	29.068	25	2	1,289	140	1,148	0	43	3526	3526	0	0	2	190	190	0	3	0	138	0	138		
12/1/1971 - 12/15/1971	15	12/1/1971	12/15/1971	15	14.534	0.466	14.534	22	2	575	70	505	0	43	1761	1761	0	0	2	95	95	0	3	0	69	0	69		

	322			323		10	313			12,166	1,522	10,644			38,262	38,262	0			2,051	2,051	0			1,171	0	1,171

Chart 4: Days on base and cumulative contaminant exposure concentrations- deposition informed activities; PM 1957-1983 moderate day averages

Exposure Dates	Total Days	Start	Stop	Total Days HP work		Total days HP residence: Field days per month	Total Days TT residence	HP TCE (ug/L-M)	TT TCE (ug/L-M)	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	HP PCE (ug/L-M)	TT PCE (ug/L-M)	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	HP VC (ug/L-M)	TT VC (ug/L-M)	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	HP BZ (ug/L-M)	TT BZ (ug/L-M)	Cumulative dose (TT & HP)	Cumulative dose (TT only)	Cumulative dose (HP only)	Ingestion (L)	Ingestion exposure notes
11/18/1970 - 11/30/1970	12	11/18/1970	11/30/1970	13	12.996	0.464	12.996	25	2	710	78	632	0	45	1951	1951	0	0	2	105	105	0	3	0	76	0	76	8.52	deposition informed field days and PM ingestion volumes
12/1/1970 - 12/31/1970	31	12/1/1970	12/31/1970	31	30.037	0.963	30.037	22	2	1512	185	1327	0	44	4631	4631	0	0	2	248	248	0	2	0	121	0	121	5.230	PM ingestion for remaining days per month
1/1/1971 - 1/31/1971	0	1/1/1971	1/31/1971	0	0.000	0.000	0.000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.000	HP field day proportion
2/1/1971 - 2/28/1971	0	2/1/1971	2/28/1971	0	0.000	0.000	0.000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.000	Residential proportion day on field days
3/1/1971 - 3/11/1971	0	3/1/1971	3/11/1971	0	0.000	0.000	0.000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.333	HP Light/non field day ingestion proportion days
3/12/1971 - 3/31/1971	20	3/12/1971	3/31/1971	20	19.379	0.621	19.379	17	2	779	117	662	0	44	2954	2954	0	0	2	198	198	0	2	0	78	0	78	0.667	Residential proportion day on light NON-training days
4/1/1971 - 4/30/1971	30	4/1/1971	4/30/1971	30	29.068	0.932	29.068	24	2	1577	176	1401	0	44	4420	4420	0	0	2	236	236	0	3	0	175	0	175		
5/1/1971 - 5/31/1971	31	5/1/1971	5/31/1971	31	30.037	0.963	30.037	19	2	1328	182	1146	0	44	4557	4557	0	0	2	243	243	0	2	0	121	0	121		
6/1/1971 - 6/30/1971	30	6/1/1971	6/30/1971	30	29.068	0.932	29.068	19	2	1284	175	1109	0	44	4404	4404	0	0	2	235	235	0	2	0	117	0	117		
7/1/1971 - 7/31/1971	31	7/1/1971	7/31/1971	31	30.037	0.963	30.037	19	2	1327	181	1146	0	44	4544	4544	0	0	2	243	243	0	2	0	121	0	121		
8/1/1971 - 8/31/1971	31	8/1/1971	8/31/1971	31	30.037	0.963	30.037	24	2	1628	181	1448	0	43	4537	4537	0	0	2	243	243	0	3	0	181	0	181		
9/1/1971 - 9/30/1971	30	9/1/1971	9/30/1971	30	29.068	0.932	29.068	21	2	1401	175	1226	0	43	4385	4385	0	0	2	235	235	0	2	0	117	0	117		
10/1/1971 - 10/31/1971	31	10/1/1971	10/31/1971	31	30.037	0.963	30.037	22	2	1906	180	1327	0	43	4525	4525	0	0	2	243	243	0	2	0	121	0	121		
11/1/1971 - 11/30/1971	30	11/1/1971	11/30/1971	30	29.068	0.932	29.068	25	2	1633	174	1459	0	43	4375	4375	0	0	2	235	235	0	3	0	175	0	175		
12/1/1971 - 12/31/1971	15	12/1/1971	12/15/1971	15	14.534	0.466	14.534	22	2	729	87	642	0	43	2185	2185	0	0	2	118	118	0	3	0	88	0	88		
	322			323		10	313			15,412	1,888	13,524			47,469	47,469	0			2,544	2,544	0			1,488	0	1,488		

Summed variable totals

		Chart 1: 1L	Chart 2: ATSDR	Chart 3: Deposition	Chart 4 Deposition/FM
	Cumulative ug/l-M	Cumulative consumption (total ug= days*concentration per L)	Cumulative consumption (total ug= days*concentration per ATSDR exposure assumptions)	Cumulative consumption (total ug= days*concentration per deposition exposure assumptions)	Cumulative consumption (total ug= days*concentration per deposition/FM exposure assumptions)
Hadnot Point					
TCE	259	6,951	8,248	10,644	13,524
PCE	0	0	0	0	0
VC	0	0	0	0	0
BZ	29	765	908	1,171	1,488
Terawa Terrace					
TCE	21	543	1,123	1,522	1,888
PCE	524	13,660	28,245	38,262	47,469
VC	28	732	1,514	2,051	2,544
BZ	0	0	0	0	0
Totals HP & TT					
TCE	280	7,494	9,371	12,166	15,412
PCE	524	13,660	28,245	38,262	47,469
VC	28	732	1,514	2,051	2,544
BZ	29	765	908	1,171	1,488

Exhibit 1

CURRICULUM VITAE

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EDUCATION

The University of Arizona, College of Agriculture and Life Sciences, Department of Soil and Water Science, PhD, 1995. Dissertation title: *Detection of Enteroviruses in Marine Waters Using RT-PCR*. Advisors: Charles P. Gerba and Ian L. Pepper. Major Field: Environmental Microbiology

The University of South Florida, Department of Environmental and Occupational Health, MSPH, 1992. Thesis title: *Evaluation of Methods for the Recovery and Quantitation of Bacteriophage from Marine Waters and Sediment*. Advisor: Joan B. Rose. Major Field: Environmental Microbiology

The University of Arizona, College of Arts and Sciences, BS, 1989. Major Field: Microbiology

EMPLOYMENT

Interim Associate Dean for Research, Mel and Enid Zuckerman College of Public Health, The University of Arizona, September 2021-present

Professor, Community, Environment and Policy, Mel and Enid Zuckerman College of Public Health, The University of Arizona, 2018-present

Department Chair, Community, Environment and Policy, Mel and Enid Zuckerman College of Public Health, The University of Arizona, 2018-present

Associate Professor (Tenured), Community, Environment and Policy, Mel and Enid Zuckerman College of Public Health, The University of Arizona, 2012-2018

Associate Professor, Joint Appointment, Department of Soil, Water and Environmental Science, College of Agriculture and Life Sciences, The University of Arizona, 2006-present

Associate Professor, Community, Environment and Policy, Mel and Enid Zuckerman College of Public Health, The University of Arizona, 2006-2012

Assistant Research Scientist/Appointed Faculty, Department of Soil, Water and Environmental Science, Environmental Research Laboratory, College of Agriculture and Life Sciences, The University of Arizona, 1995-2006

Post Doctoral Fellow/Teaching Assistant, Department of Soil and Water Science, College of Agriculture and Life Sciences, The University of Arizona, 1995

Research Fellow, Department of Soil and Water Science, College of Agriculture and Life Sciences, The University of Arizona, 1992-1994

Research Assistant, Department of Environmental and Occupational Health, College of Public Health, The University of South Florida, 1989-1991

Research Technician, Department of Microbiology and Immunology, College of Agriculture and Life Sciences, The University of Arizona, 1987-1989

HONORS AND AWARDS

Top two finalist, 2022 NIOSH Science and Service Award. Bullard-Sherwood Research to Practice Award Finalist for Intervention. (Honorable Mention Certificate) NIOSH COVID019 IPA Program: Expanding Occupational Health and Safety Expertise Through External Partnerships.

American Chemical Society (ACS) Omega, top 50 most outstanding articles to demonstrate quality of work published over the last 5 years. 2020. ACS Omega Announcement: https://pubs.acs.org/page/acsodf/vi/5-year-celebration-acsomega?ref=vi_journalhome

Delta Omega, Alpha Nu chapter, Honorary Society, Faculty Member, 2019

Research featured on Chemistry Views, Wiley-VCH's chemistry portal. Noteworthy: Direct Pathogen Monitoring. March 12, 2018.

Research featured in the Association of Schools and Programs of Public Health, Friday Letters-Member research and reports. Arizona: Use of a Portable Air Disinfecting System to Remove Seeded Coliphage in Hospital Rooms. April 13, 2016.

Mel & Enid Zuckerman College of Public Health, Excellence in Research Award, 2015

Who's Who in Infection Prevention. One of 37 recognized as an outstanding individual working hard to advance the infection prevention and control agenda, as nominated by Infection Control Today readers, 2014

Nominated for the University of Arizona's 1885 Society Distinguished Scholar Award, 2013

Judges Choice Award for best linkage of scientific research to issues of concern within the community. Valdez, M.K. J.D. Sexton, **K.A. Reynolds.** Transfer and control of infectious

microbes in emergency vehicles. Environmental Research Grad Blitz. Tucson, AZ, November 2012

Nominated for the Mel & Enid Zuckerman College of Public Health Annual Award for Outstanding Contribution in the Area of Research. Ranked in top 3 of 58 faculty, 2011

Tucson Fire Department's Award of Service, 2010

William B. Fritzsche Memorial 2009 Top 50 International Award, for service and dedication to the water treatment industry.

Water Quality Association, Honorary Lifetime Member Award, 2009. In recognition of exceptional service given to the water quality improvement industry.

Water Conditioning and Purification International's Award of Appreciation for the most requested article reprints in journal history, 2008-2009

Water Conditioning and Purification International's Award of Appreciation to honor service and commitment to the Technical Review Committee, 2008-2009

UA-NASA Space Grant Award, 2007-2008

ASUA Enrichment Grant Award, 2007-2008

First place Poster Award, Public Health Graduate and Professional Student Council Showcase, 2007; Student advised: Jonathan Sexton

Academic Who's Who in Health Sciences Higher Education, 2007

Presentation voted "best of show". Invited speaker, *The Hazards of Indoor Mold*. 29th Annual Water Quality Association Conference. Las Vegas, NV. March 18-22, 2003

Travel Grant from WQA. Annual Convention and Symposium. Las Vegas, NV, 2003

Travel Grant from NSF. HPC Bacteria in Drinking Water. Geneva, Switzerland Symposium, 2002

Appointed member of the NSF/WHO Heterotrophic Plate Count Bacteria (HPC) Conference Steering Committee by the Water Quality Association Technical Board, 2000-2002

Foreign Travel Grant Award for faculty, 1996

American Society for Microbiology Sustaining Member Student Travel Grant, 1995

Travel Stipend from The Women in Science and Engineering Office, 1995

The United States Department of Agriculture National Needs Fellowship, 1992-1995

The University of Arizona Academic Achievement Scholarship Award, 1992-1995

SERVICE/OUTREACH

Media (abbreviated)

Research has been featured in hundreds of unique local, national and international television, print and web outlets including: Television/Radio: *Fox News* "*Neil Cavuto News Hour", The Today Show, PBS News Hour, EXTRA!, Inside Edition, CBS News, NPR "All Things Considered", CNN, Chicago NBC 5, Phoenix KPHO News 5, CBS 5 News Phoenix, ABC 15 KNXV-TV Phoenix, KVOA 4 Tucson, Arizona Illustrated, The Office;* Magazines: *Redbook*, *InStyle, Dr. Oz, Ladies Home Journal, Women's Day, Real Simple, Good Housekeeping, House Beautiful*, *Parade, Reader's Digest, Parents, Health, Prevention, Self, Shape, Fitness, Men's Health, Forbes, Conde Nast, American Baby, Consumer Reports, Essence, Cooking Light, Quick and Simple, Working Mother, Best Life, Bottom Line Health, All You, Arthritis Today, Walmart World, Life Science Weekly, Wall Street Journal, NY Times, NY Daily News, NY Business News, NY Daily Gazette, Charleston Gazette, Make it Better, Arizona Daily Star, Glow*; Webcasts: BuzzFeed, Huffington Post, Yahoo! Health, Oprah.com, MSN.com, AARPonline, Consumer Affairs, MailOnline (UK), 774 ABC Melbourne, WeightWatchers.com, American Society for Microbiology's Microbe World, Bronx New Moms, Grandparents.com, Bob Villa's Healthy Home, Medical Observer, Mommycast.com and others.

2019-present

1. Mirror UK. Experts share common dog bed cleaning mistake that makes you and your pet ill. https://www.mirror.co.uk/news/world-news/experts-share-common-dog-bed-27167009 June 7, 2022
2. Livestrong.com. How bad is it really to not clean your dishwasher? March, 2022
3. Livestrong.com. How bad is it really to never clean your yoga mat? https://www.livestrong.com/article/13769154-clean-exercise-mat/ February 27, 2022
4. Livestrong.com. How bad is it really to share bar soap? https://www.livestrong.com/article/13770279-effects-of-sharing-bar-of-soap/ February 20, 2022
    a. CNN Indonesia. How bad is it to share a bar of soap? https://www.cnnindonesia.com/gaya-hidup/20220225091724-277-763911/seberapa-buruk-pakai-sabun-batangan-bergantian February 25, 2022
    b. Republika (Indonesia). Bar soap is shared, can bacteria that stick to it can spread from person to person? https://www.republika.co.id/berita/r7u96u414/sabun-batangan-dipakai-bersama-bakteri-yang-menempel-bisa-menyebar-dari-orang-ke-orang February 25, 2022
    c. Antara News. Is it a bad idea to share soap with others? https://www.antaranews.com/berita/2725437/ide-buruk-atau-baik-berbagi-pakai-sabun-batangan-dengan-orang-lain February 25, 2022

5. Eat This, Not That! Your "clean" clothes may be covered in bacteria, shocking study says. https://www.eatthis.com/news-washing-machine-bacteria/ February 22, 2022
6. Kumparan (Jakarta, Indonesia). Sharing makeup can be a source of bacteria. ○: https://kumparan.com/kumparanwoman/4-alasan-kamu-tak-boleh-meminjamkan-makeup-ke-orang-lain-1xFAuZuOosZ January 4, 2022
7. The Hill. Congress must reform the safe drinking water act to guarantee the public right-to-know. https://thehill.com/opinion/energy-environment/587667-congress-must-reform-the-safe-drinking-water-act-to-guarantee-the#bottom-story-socials December 29, 2021
8. New York Times Wirecutter. The best underwear for kids. https://www.nytimes.com/wirecutter/reviews/best-kids-underwear/ December 16, 2021
9. Inverse.com. Is raw cookie dough safe? A food scientist reveals the best way to eat it. https://www.inverse.com/science/is-raw-cookie-dough-safe-to-eat. October 23, 2021
10. Freundin. How often should people clean their showers to prevent mold? https://www.freundin.de/lifestyle-wie-oft-dusche-badewanne-reinigen-putzen
11. Arizona Republic. Is it safe to go to Thanksgiving dinner? What to know if yu're staying home or eating out. https://www.azcentral.com/story/entertainment/holidays/2021/11/19/covid-holiday-gathering-safely-advice-2021/6389206001/ November 19, 2021
12. Teen Kids News. 'Feel free to pass the gravy': Celebrate Thanksgiving 2021 safely with these expert tips. (11.4k views) https://teenkidsnews.com/feel-free-to-pass-the-gravy-celebrate-thanksgiving-2021-safely-with-these-expert-tips/ November 19, 2021
13. SHAPE. The germiest spots in your house, according to experts. https://www.shape.com/lifestyle/mind-and-body/germ-hotspots-in-house November 19, 2021
14. Livestrong.com. How bad is it really to never clean your shower? https://www.livestrong.com/article/13768313-effects-of-not-cleaning-shower/ November 10, 2021
15. Daily Sun (South Africa). Toilet paper anyone? https://www.dailysun.co.za/LIfestyle/reusable-toilet-paper-anyone-20210914. September 14, 2021
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    a. Storied Hotels: https://storiedhotels.com/travel-and-hotel-articles/the-germiest-places-at-the-airport/
    b. WMJI-FM (Cleveland, OH): https://wmji.iheart.com/featured/the-mark-nolan-show/content/2021-06-21-the-most-germ-filled-places-at-the-airport/?Keyid=socialflow&Pname=local_social&Sc=editorial
    c. WAKS-FM (Independence, OH): https://isscleveland.iheart.com/content/2021-06-21-the-most-germ-filled-places-at-the-airport/
    d. KCYZ-FM (Ames, IA) https://now1051.iheart.com/featured/toby-knapp/content/2021-06-23-travel-the-germiest-places-in-the-airport-traveling-soon-check-this/
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15. Clinical Omics. New smartphone-based COVID-19 test could deliver results in 10 minutes. https://www.clinicalomics.com/topics/patient-care/coronavirus/new-smartphone-based-covid-19-test-could-deliver-results-in-10-minutes/
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17. The American Banker. Holiday volunteerism stymied by pandemic. https://www.americanbanker.com/creditunions/news/holiday-volunteerism-stymied-by-pandemic December 16, 2020
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19. BobVila.com. 10 tips for effectively cleaning your home during a pandemic. https://www.bobvila.com/slideshow/10-tips-for-effectively-cleaning-your-home-during-a-pandemic-578243. December 2020
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Infection Prevention: UArizona Shares Basic Fundamentals for Reopening. President Robert C. Robbins and Kelly Reynolds. https://www.youtube.com/watch?v=6qBigpiwfVg June 12, 2020.

Rotary Club of Tucson. Keynote. COVID-19 Workplace and Home Prevention Training. https://www.youtube.com/watch?v=200DIvqormM. June 4, 2020.

Arizona Water Innovation Challenge Video. Promoting water reuse through microbrewery competition. October 31, 2016. https://youtu.be/oEXUD8XeZno. Grand Challenge Winner.

UA Institute of the Environment, meeting of Department Heads and Directors, October 22, 2015

UA Campaign Video, March 2014

Water Safety Plan Development. University of Arizona Steward Observatory Mirror Lab. Student intern: Joli Jones, 2013

Mold Survey and Education Outreach. Northwest Fire District. 2012

National Outreach (since 2012)

Healthcare Infection Transmission Systems (HITS). Co-Founder and Steering Committee Vice-Chair. 2017-2021

Clean Water for All advocacy group. 2020

Applied Radiology Expert Forums. COVID-19 Special Series: Tips for Protecting Your Family. https://event.on24.com/eventRegistration/EventLobbyServlet?target=reg20.jsp&referrer=&eventid=2301687&sessionid=1&key=395CA1D59B0B9ECD030254FF6F3A282E&regTag=&sourcepage=register. May 14, 2020.

EMS Exposure Reduction Training. Partnership with Tucson Fire Department (TFD), Tucson Fire Fighters Association IAFF Local 479. https://www.youtube.com/watch?v=GIbGJtfzHdE&feature=youtu.be Posted March 21, 2020. (Impact: >20,000 views)

PreventLD Training. Preventing Legionnaires' Disease: A training on *Legionella* water management programs. https://www.cdc.gov/nceh/ehs/elearn/prevent-LD-training.html 2019-present

WQA Radio. Podcast. The impact of the Santa Clarita, California water softener ban. https://soundcloud.com/user-141188699/wqa-radio-39-kelly-reynolds-on-santa-clarita-softener-ban. September 28, 2017

AHE Learning Express Video Library. Soft surfaces contamination concerns in healthcare environments. September 27, 2016

AHE Learning Express Video Library. Quantitative risk modeling to evaluate microbial transmission patterns in healthcare environments. September 27, 2016

QMRA III Program Faculty- contributed content. Michigan State University. August 7-10, 2015

Water Laboratory Alliance Analytical Preparedness Full Scale Exercise (AP-FSE) Tool Kit Pilot. A collaboration with ESRAC, Tucson Water, and the Environmental Protection Agency (EPA). Certificate of Appreciation. June 26, 2016

EPA (Environmental Protection Agency). Expert review panelist for draft document, "Site-Specific Alternative Recreational Criteria Technical Support Material for Predominantly Non-Human Fecal Sources", March 2015

National Park Service. Environmental Predictors of Fecal Indicator Bacteria in Recreational Waters and Risk Communication at Five National Park Service Sites. Student intern advised: Rebecca Ragar, 2013

International Outreach (current and since 2012)

Global Biorisk Advisory Council (GBAC) Advisory Board Member, January 2022-present

COVID-19 Global Prevention Webinar. MEZCOPH. Speaker and panelist. April 1, 2020.

Codes and Standards CSA Cleaning and Disinfection Committee, focused on the development of healthcare cleaning standards in Canada. Founding member, 2018-2019

Environment, Exposure Science and Risk Assessment Center (ESRAC) website development. 2013-present

Quarterly author of De Le Llave, an educational column for Agua Latinoamérica, focused on current and emerging water quality issues in Latin America. Published in Spanish. 2001-2021

Monthly author of On Tap, an educational column for Water Conditioning and Purification International, focused on cutting-edge research in the field of environmental microbiology. 1997-present

Appointed to the Technical Review Council, Water Conditioning and Purification, 1996-2021

Redditt AMA. February 1, 2013. Second most popular AMA for the day; 277 points and 71st most popular topic on Redditt immediately following live post.

Journal/Book Reviews (since 2012)

Infection Control Tips, 2021

Journal of Occupational and Environmental Hygiene, 2014; 2016; 2017

Journal of Water and Health, 2012; 2017

Journal of Occupational and Environmental Health, 2014; 2016

Saudi Journal of Medicine & Medical Sciences, 2016

Integrative Environmental Health, Cohen and vom Sal (Eds.), The Weil Integrative Medicine Library, 2015

American Journal of Infection Control, 2014

International Journal of Environmental Research and Public Health, 2013

Journal of Virological Methods, 2012-2013

Public Health, 2012

Departmental Committees (since 2012)

Mentor, Marc Verhougstraete, Assistant Professor of Environmental Health Sciences, Mel & Enid Zuckerman College of Public Health, University of Arizona, 2016-2019

Mentor, Robert Canales, Assistant Professor of Environmental Health Sciences, Mel & Enid Zuckerman College of Public Health, University of Arizona, 2015-2019

Environmental Health Sciences, Program Director 2015-2017

Education Committee, Member 2015-2017

Community, Environment and Policy, Promotion and Tenure Committee, Member 2015-2017

Reviewer/Chair. Annual Faculty Performance Reports. Community, Environment and Policy Division, 2016 (Chair); 2017 (Chair); 2018 (Chair)

Mentor, Heidi Brown, Assistant Professor of Epidemiology and Biostatistics, Mel & Enid Zuckerman College of Public Health, University of Arizona, 2013-2016

Faculty Search Committees, 2012; 2013; 2014; 2015; 2016; 2017; 2018

Director of Graduate Studies, 2015

College Committees (current and since 2012)

Director, Western Region Public Health Training Center (WRPHTC), 2021-present

Director, Environment, Exposure Science and Risk Assessment Center (ESRAC), 2013-present

2022 Arizona Center for Rural Health (AzCRH) Advancing Health Equity, Addressing Disparities in Arizona (AHEAD) Advisory Committee Member

MEZCOPH Activity Informed Budget (AIB) Advisory Committee Member, 2021

2020 COVID-19 MEZCOPH Response Task Force

2019 CEPH MEZCOPH Self Study Task Force

2018 Public Health Poster Forum Judge. April 9, 2018

Research Advisory Council, 2006-2017

One Health Admissions Review Committee, 2017

MEZCOPH Curriculum Planning Committee 2016-2017

Public Health Research Poster Forum Judge. March 29, 2016

Promotion and Tenure Review Committee, 2010-2015

Search Committee, Biostatistics Faculty, 2013

Global Health and Community Development Committee, 2011-2013

University Committees (current and since 2012)

Institute for Environment and Science, Advisory board, member, 2008- present

Appointed Executive Committee Member. UA Water Quality Certificate Program, 2007-present

UA Water Sustainability Program (WSP) Academic Advisory Committee, 2007-present

Member, UA Health Sciences Strategic Planning Advisory Committee. 2018-2020

Search Committee, College of Social and Behavioral Sciences, TRIS/WEES Joint Hire in Environmental Health, 2017-2018

One Health MPH, Executive Advisory Committee, 2015-2017

Water, Environmental, and Energy Solutions (WEES) UA Advisory Committee, 2015-2017

Water, Energy, Sustainability and Technology (WEST) Center Search Committee, 2015-2016

UA Food Safety Consortium, member 2014-2016

UA Environmental Social Scientists Workshop, 2015

AAHRPP IRB Review member, 2014

Dean's 5 Year Review Committee, 2014

Faculty Advisor. UA Thirst Project Club, 2012-2014

Institutional Review Board Committee, 2012-2014

UA Faculty Senate IT Committee, 2012-2014

UA Faculty Senator, at-Large Faculty Senate Representative, 2009-2011; re-elected 2011-2013

Graduate Interdisciplinary Program Committee on Global Change (ISPE), Faculty advisor, 2007-2012

External Committees (current and since 2012)

ASSE Certification Advisory Board. Member 2019- present

Promotion and Tenure Review, Candidate for Promotion to Full Professor, Tulane University, 2021

Promotion and Tenure Review, Candidate for Promotion to Full Professor, Drexel University, 2019

Public Health Editor, Water Conditioning and Purification International. 2010- present

Water Quality Association (WQA) Sustainability Review Board and Certification Program Co-Chair. 2017-2020

Arizona Public Health Association. Member 2018

Promotion and Tenure Review, Candidate for Promotion to Associate Professor, Michigan State University, 2017

Advisory Panel on Emerging Contaminants, Arizona. Department of Environmental Quality. 2014-2016

DEVELOPMENT ACTIVITIES

Introduction to Strategic Planning Certificate, October 11, 2021

Preventing Harassment and Discrimination Certificate, October 6, 2021

FERPA Training Course Certificate, August 30, 2021

HIPAA Annual Certification, August 25, 2021

CITI Certification, July 19, 2021

Biosafety Level 3 Protection Course Certificate, April 7, 2021

Information Security Awareness Annual Refresher Course Certificate, March 23, 2021

Teaching workshop- Group Work. OIA. August 30, 2019

Course audit, CPH 604 Applied Math in Environmental Health Sciences. Spring 2017

Making the Most of the Opening and Closing Minutes of Class Time. Teaching development webinar training with Dr. Jim Lang. February 16, 2017

COURSES TAUGHT (since 2012)

CPH 418/518 Quantitative Human Health Risk Assessment. A course designed relative to practice and research within the risk analysis paradigm including: risk assessment, risk management and risk communication.

CPH 484/584 Fundamentals in Environmental and Occupational Health. A core course in the basics of quantitative exposure assessment and hazard identification.

CPH 575 Environmental and Occupational Health. A core course in environmental health sciences and occupational health and safety practice and research.

CPH 696r Environmental and Occupational Health Seminar. Special topics and career development in EOH.

EHS 420/520 Environmentally Acquired Illnesses. A course in emerging infections from a mixture of environmental hazard exposures.

PUBLICATIONS

Chapters in Scholarly Books (original research)

1. Suppes, L.M., K.C. Ernst, L. Abrell, **K.A. Reynolds**. 2019. Validation of questionnaire methods to quantify recreational water ingestion. *In:* E. Leoni (Ed.) Recreational Water Illnesses. MDPI. Basel, Switzerland. IBSN-978-3-03897-579-3 (scholarly book chapter/original research).

2. **Reynolds, K.A.** 2011. Will global warming influence emerging disease? Encyclopedia of Microbiology. *In*: A. Maczulak. (Ed.). Encyclopedia of Microbiology. Facts on File, Inc., Infobase Publishing, New York, NY.

3. **Reynolds**, **K.A**., K. D. Mena. 2009. Quantitative Microbial Risk Assessment of Waterborne Disease. *In:* IOM (Institute of Medicine) Global issues in water, sanitation, and health. Washington, DC: The National Academies Press.

4. Hurst, C.J. and **K.A. Reynolds**. 2007. Sampling viruses from soil. *In:* C. J. Hurst, R.L. Crawford, J.L. Garland, D.A. Lipson, A.L. Mills, L.D. Stetzenbach (Eds.) Manual of Environmental Microbiology. Third Edition. ASM Press, Washington, D.C. ISBN-10: 1-5581-379-8 (scholarly book chapter/original research).

5. Hurst, C.J. and **K.A. Reynolds**. 2007. Detection of viruses in environmental waters, sewage, and sewage sludges. *In:* C. J. Hurst, R.L. Crawford, J.L. Garland, D.A. Lipson, A.L. Mills, L.D. Stetzenbach (Eds.) Manual of Environmental Microbiology. Third Edition. ASM Press, Washington, D.C. ISBN-10: 1-5581-379-8 (scholarly book chapter/original research).

6. **Reynolds, K.A.** 2004. Integrated cell culture/PCR for detection of enteric viruses in environmental samples. *In:* Spencer, J.F.T and Ragout de Spencer, A.L. (Eds.). Public Health Microbiology: Methods and Protocols. Methods in Molecular Biology, Vol. 268. Humana Press. Totowa, New Jersey, pp. 69-78.

7. Gerba, C.P., **K.A. Reynolds**, S.E. Dowd, and I.L. Pepper. 2001. Polymerase chain reaction for the detection of parasites and viruses. *In:* Rapid Detection Assays for Food and Water. S. Clark, K.C. Thompson, C.W. Keevil, and M. Smith (Eds.), The Royal Society of Chemistry, Cambridge, United Kingdom, pp. 49-54.

Chapters in Scholarly Books (textbooks)

1. Artiola, J.F., **K.A. Reynolds,** M.L. Brusseau. 2019. Urban and Household Pollution. *In*: R.M. Maier, I.L. Pepper, C.P. Gerba (Eds.). Environmental and Pollution Science. Third Edition. Elsevier, New York, NY.

2. Verhougstraete, M. J.D. Sexton, **K.A. Reynolds**. 2015. Recreational Water Exposure. In. J. Bartram. (Ed.). Handbook for Water and Health. EarthScan.

3. **Reynolds, K.A.** 2008. Indoor air quality. *In*: R.M. Maier, I.L. Pepper, C.P. Gerba (Eds.). Environmental and Pollution Science. Second Edition. Academic Press, New York, NY.

4. **Reynolds, K.A.** 2008. Drinking water Quality and Water Security. *In*: R.M. Maier, I.L. Pepper, C.P. Gerba (Eds.). Environmental and Pollution Science. Second Edition. Academic Press, New York, NY.

5. **Reynolds, K.A.** 2006. Indoor air quality. *In*: R.M. Maier, I.L. Pepper, C.P. Gerba (Eds.). Environmental and Pollution Science. Academic Press, New York, NY

6. **Reynolds, K.A.** 2006. Drinking water Quality and Water Security. *In*: R.M. Maier, I.L. Pepper, C.P. Gerba (Eds.). Environmental and Pollution Science. Academic Press, New York, NY.

7. **Reynolds, K.A.** and I.L. Pepper. 2000. Microorganisms in the Environment. Environmental Microbiology. (Ed.) R. Miller-Maier. Academic Press, New York, NY.

Refereed Journal Articles

1. Abney, S.E., A.M. Wilson, M.K. Ijaz, J. McKinney, **K.A. Reynolds**, C.P. Gerba. Transmission of viruses from restroom use: a quantitative microbial risk assessment. International Journal of Hygiene and Environmental Health. Submission pending.

2. Wilson, A.M., K.R. Victory, **K.A. Reynolds**, N.L. Cabrera, D. Larson, J. Latura, J.L. Burgess, P.I. Beamer. Measured and Modeled Comparisons of Chemical and Microbial Contaminants in Tap and Bottled Water in a U.S.-Mexico Border Community. *Submitted* 03/08/22

3. Victory, K.R, A.M. Wilson, N.L. Cabrera, D. Larson, K.A. Reynolds, J. Latura, P.I. Beamer. Risk perceptions of drinking bottled vs. tap water in a low-income Latino community in Nogales, Arizona. Environmental Health. *Submitted* 03/08/22

4. Gerba, C.P., P.B. Valenzuela, P.M. Gundy, **K.A. Reynolds**. Viral and bacterial reduction during cold water machine washing and drying of cotton fabrics. Journal of Applied Microbiology. *Submitted 03*/10/22

5. Wilson, A.M., K. Canter, S.E. Abney, C.P. Gerba, E.R. Myers, J. Hanlin, **K.A. Reynolds**. An application for relating *Legionella* shower water monitoring results to estimated health outcomes. Water Research. *Submitted* 09/19/21

6. Abney, S.E., A.M. Wilson, M.K. Ijaz, J. McKinney, **K.A. Reynolds**, C.P. Gerba. Minding the matrix: The importance of inoculum suspensions in finger transfer efficiency. Journal of Applied Microbiology. *In re-review*. 12/30/21

7. King, M-F., A.M. Wilson, M.H. Weir, M. López-García, J. Proctor, W. Hiwar, A. Khan, L.A. Fletcher, P.A. Sleigh, I. Clifton, S.J. Dancer, M. Wilcox, **K.A. Reynolds,** C.J. Noakes. 2022. Modelling fomite mediated SARS-CoV-2 exposure through PPE doffing in a hospital environment. Indoor Air. Jan; 32(1):e12938 https://doi.org/10.1111/ina.12938

8. Reynolds, K.A. The impact of continuously active disinfectants (CADs). 2022. ISSA (International Sanitary Supply Association) Today. January/February 2022 p. 27. http://issatoday.issa.com/?issueID=66&pageID=29

9. Reynolds, K.A., M.P. Verhougstraete, K.D. Mena, S.A. Sattar, E. Scott, C.P. Gerba. 2022. Quantifying pathogen infection risks from household laundry practices. Journal of Applied Microbiology. 132:1435-1448. https://doi.org/10.1111/jam.15273

10. Dennis, L.K., A.M. Jung, **K.A. Reynolds**, C.H. Hsu, L. Abrell. 2021. Stability of chemical UV filters in sunscreens exposed to vehicle cabin temperatures. American Journal of Dermatological Research and Reviews. 4:46. ISSN:2638-1893. https://escipub.com/Articles/AJODRR/AJODRR-2021-06-0805.pdf

11. King, M-F., A.M. Wilson, M.H. Weir, M. López-García, J. Proctor, W. Hiwar, A. Khan, L.A. Fletcher, P.A. Sleigh, I. Clifton, S.J. Dancer, M. Wilcox, **K.A. Reynolds,** C.J. Noakes. 2021. Modelling the risk of SARS-CoV-2 infection associated with self-contamination through PPE doffing in a hospital environment. MedRxiv. https://www.medrxiv.org/content/10.1101/2020.09.20.20197368v1

12. Wilson, A.M., R.M. Jones, V.L. Lugo, S.E. Abney, M.F. King, M.H. Weir, J.D. Sexton, C.J. Noakes, **K.A. Reynolds**. 2021. Respirators, face masks, and their risk reductions via multiple transmission routes for first responders within an ambulance. Journal of Occupational and Environmental Hygiene. 18:7:345-360. https://doi.org/10.1080/15459624.2021.1926468

13. **Reynolds, K.A.** 2021. The impact of a continuously active disinfectant on bacterial surface concentrations and biofilm growth. InfectionControl.tips. https://infectioncontrol.tips/2021/06/01/impact-of-a-continuously-active-disinfectant-on-bacterial-surface-concentrations-and-biofilm-growth/

14. Wilson, A.M., M-F. King, M. Lopez-Garcia, I. Clifton, J. Proctor, **K.A. Reynolds**, C. J. Noakes. 2021. Effects of patient room layout on viral accruement on healthcare professionals' hands. Indoor Air. 31:1657-1672. https://doi.org/10.1111/ina.12834

15. **Reynolds, K.A.**, J.D. Sexton, F. Garavito, B. Anderson, J.M. Ivaska. 2021. Impact of a whole-room hypochlorous acid atomizing disinfection system on healthcare surface contamination, pathogen transfer, and labor efficiency. Critical Care Medicine. 3(2): e0340. https://doi.org/10.1097/CCE.0000000000000340

16. Wilson, A.M., M.P. Verhougstraete, P.I. Beamer, M.F. King, **K.A. Reynolds**, C. P. Gerba. 2021. Frequency of hand-to-head, -mouth and nose contacts for adults and children during eating and non-eating macro-activities. Journal of Exposure Science and Environmental Epidemiology. https://doi.org/10.1038/s41370-020-0249-8

17. Wilson, A.M., M.P. Verhougstraete, C.J. Donskey, **K.A. Reynolds**. 2021. An agent-based modeling approach to estimate pathogen exposure risks from wheelchairs. American Journal of Infection Control. https://doi.org/10.1016/j.ajic.2020.06.204

18. Chung, S., L.E. Breshears, A. Gonzales, C.M. Jennings, C.M. Morrison, W.Q. Betancourt, **K.A. Reynolds**, J.Y. Yoon. 2021. Norovirus detection in water samples at the level of single virus copies per microliter using a smartphone-based fluorescence microscope. Nature Protocols. 16(3): 1452-1475. https://doi.org/10.1038/s41596-020-00460-7

19. **Reynolds, K.A.**, J.D. Sexton, A. Norman, D.J. McClelland. 2021. Comparison of electric hand dryers and paper towels for hand hygiene: A critical review of the literature. Journal of Applied Microbiology. 130(1):25-39. https://doi.org/10.1111/jam.14796 *Top 10 most downloaded paper among work published online between 1 January 2019 and 31 December 2020.

20. Wilson, A.M., M.H. Weir, S.F. Bloomfield, E.A. Scott, **K.A. Reynolds**. 2021. Modelling COVID-19 infection risk for a single hand-to-fomite scenario and potential risk reductions offered by surface disinfection. American Journal of Infection Control. 49: 846-848. https://doi.org/10.1016/j.ajic.2020.11.013

21. Wilson, A.M., M.F. King, M. Weir, J.D. Sexton, R. Canales, G. Kostov, T. Julian, C. Noakes, **K.A. Reynolds**. 2020. Evaluating a transfer gradient assumption in a fomite-

mediated microbial transmission model using an experimental and Bayesian approach. Journal of the Royal Society Interface. http://eprints.whiterose.ac.uk/161366/

22. Verhougstraete, M., **K.A. Reynolds**, J. Pearce-Walker, C. Gerba. 2020. Cost-benefit analysis of point-of-use devices for health risks reduction from pathogens in drinking water. Journal of Water and Health. 18(6):968-982. https://doi.org/10.2166/wh.2020.111

23. Wilson, A.M., S.E. Abney, M.F. King, M.H. Weir, M. Lopez Garcia, J.D. Sexton, S.J. Dancer, J. Proctor, C. J. Noakes, **K.A. Reynolds**. 2020. COVID-19 and non-traditional mask use: How do various materials compare in reducing the infection risk for mask wearers? Journal of Hospital Infection. COVID Practice Points. https://doi.org/10.1016/j.jhin.2020.05.036

24. Verhougstraete, M.P., K. Pogreba-Brown, R. Canales, **K.A. Reynolds**, C. Condé Lamparelli, M. Inês Zanoli Sato, J.N.S. Eisenberg. 2020. A critical analysis of recreational water guidelines developed from temperate climate data and applied to the tropics. Water Research. 170(1): *EPub online*. https://doi.org/10.1016/j.watres.2019.115294

25. Malika, N., G. Barbagelatta, M. Penny, **K. Reynolds**, R. Sinclair. 2020. Impact of housing and infrastructure on handwashing in Peru. International Health. https://doi.org/10.1093/inthealth/ihaa008

26. Contreras, R.D., A. M. Wilson, F. Garavito, J.D. Sexton, **K.A. Reynolds**, R.C. Canales. 2020. Assessing virus infection probability in an office setting using stochastic simulation. Journal of Occupational & Environmental Hygiene. 17(1):30-37. https://doi.org/10.1080/15459624.2019.1691219

27. Wilson, A.M., B. Escudero-Abarca, L.A. Jaykus, **K.A. Reynolds**, C.P. Gerba. 2020. Comparison of estimated norovirus infection risk reductions for a single fomite contact scenario with residual and non-residual hand sanitizers. American Journal of Infection Control. *Epub Online.* https://doi.org/10.1016/j.ajic.2019.09.010

28. Wilson, A.M., **K.A. Reynolds**, R.A. Canales. 2019. Estimating the effect of a hand hygiene compliance and surface cleaning timing on infection risk reductions with a mathematical modeling approach. American Journal of Infection Control. 47(12):1453-1459. https://doi.org/10.1016/j.ajic.2019.05.0233

29. Ornelas Van Horne, Y., J. Parks, L. Abrell, T. Tran, **K.A. Reynolds**, P. Beamer. 2019. Seasonal variation of water quality in unregulated domestic wells. International Journal of Environmental Research and Public Health. 16(9):1569-1583. https://doi.org/10.3390/ijerph16091569

30. Hunter, C.M., S. McMullen, C. Edens, L.J. Baddour, **K.A. Reynolds**, D.L. Taren. 2019. Preventing Legionnaires' disease through a new learning opportunity: A training on *Legionella* water management programs. Direct from CDC Environmental Health Services; Advancement of the Practice. Journal of Environmental Health. 82(3):44-46

31. Chung, S. L.E. Breshears, S. Perea, C.M. Morrison, W.Q. Betancourt, **K.A. Reynolds**, J.Y. Yoon. 2019. Smartphone-based paper microfluidic particulometry of norovirus from environmental water samples at single copy level. ACS Omega. 4(6):11180-11188 http://doi.org/10.1021/acsomega.9b00772

32. Canales, R.A., A.M. Wilson, R.G. Sinclair, M. Soto-Beltran, J. Pearce-Walker, M. Molina, M. Penny, **K.A. Reynolds**. 2019. Microbial study of household hygiene conditions and associated *Listeria monocytogenes* infection risks for Peruvian Women. Tropical Medicine and International Health. 24(7):899-921 https://onlinelibrary.wiley.com/doi/10.1111/tmi.13246

33. Wilson, A.M. **K.A. Reynolds**, M.P. Verhougstraete, R.A. Canales. 2019. Validation of a stochastic discrete event model for predicting virus concentration on nurse hands. Risk Analysis. 39(8): 1812-1824. http://doi.org/10.1111/risa.13281

34. Kurgat, E.K., J.D. Sexton, F. Garavito, A. Reynolds, R.D. Contreras, C.P. Gerba, R. Leslie, S. Edmonds-Wilson, **K.A. Reynolds.** 2019. Impact of a hygiene intervention on virus spread in an office building. International Journal of Hygiene and Environmental Health. 222: 479-486. https://doi.org/10.1016/j.ijheh.2019.01.001

35. Verhougstraete, M.P., J.K. Gerald, C.P. Gerba, **K.A Reynolds**. 2019. Cost benefits of point-of-use devices for lead reduction. Environmental Research. 171: 260-265. https://doi.org/10.1016/j.envres.2019.01.016

36. Canales, R.A., **K.A. Reynolds**, A.M. Wilson, S.L.M. Fankem, M.H. Weir, J.B. Rose, S. Ad-Elmaksoud, C.P. Gerba. 2019. Modeling the role of fomites in a norovirus outbreak. Journal of Occupational and Environmental Hygiene. 16(1):16-26. https://doi.org/10.1080/15459624.2018.1531131

37. Munoz-Gutierrez, K.M., R. A. Canales, **K.A. Reynolds**, M.P. Verhougstraete. 2018. Floor and environmental contamination during glove disposal. Journal of Hospital Infection. 101(3): 347-353. https://doi.org/10.1016/j.jhin.2018.10.015

38. **Reynolds, K.A**., J.D. Sexton, T. Pivo, K. Humphrey, R.A. Leslie, C.P. Gerba. 2018. Microbial transmission in an outpatient clinic and impact of an intervention with an ethanol-based disinfectant. American Journal of Infection Control. 47(2):128-132. https://doi.org/10.1016/j.ajic.2018.06.017

39. Suppes L.M., K.C. Ernst, L. Abrell, **K.A. Reynolds**. 2018. Validation and standardization of swimming exposure and pool operations questionnaires. International Journal Environmental Research and Public Health. 15(11): 2435. https://doi.org/10.3390/ijerph15112435

40. Alshammari, M., **K.A. Reynolds**, M.P. Verhougstraete, M.K. O'Rourke. 2018. Comparison of perceived and observed hand hygiene compliance in healthcare workers in MERS-CoV endemic regions. Healthcare. 6(4):122. https://doi.org/10.3390/healthcare6040122

41. Wilson, A.M. **K.A. Reynolds**, J.D. Sexton, R.A. Canales. 2018. Modeling surface disinfection needs to meet microbial risk reduction targets. Applied Environmental Microbiology. 84(18):1-9. DOI:10.1128/AEM.00709-18. http://aem.asm.org/content/early/2018/07/03/AEM.00709-18.abstract

42. Canales, R.A., A.M. Wilson, J. Pearce-Walker, M.P. Verhougstraete, **K.A. Reynolds.** 2018. Methods for Handling Left-Censored Data in Quantitative Microbial Risk Assessment. Applied Environmental Microbiology. *Spotlight paper. 84(20): e01203-18. Supplemental material: https://doi.org/10.1128/AEM.01203-18.

43. Sassi, H.P., **K.A. Reynolds**, I.L. Pepper, C.P. Gerba. 2018. Evaluation of Hospital-Grade Disinfectants on Viral Deposition on Surfaces after Toilet Flushing. American Journal of Infection Control. 46(5): 507-11. DOI:10.1016/J.AJIC.2017.11.005

44. Lothrop, N., K.R. Bright, J.D. Sexton, J. Pearce-Walker, **K.A. Reynolds**, M.P. Verhougstraete. 2018. Optimal Strategies for Monitoring Irrigation Water Quality. Agricultural Water Management. 199(2018): 86-92. DOI: 10.1016/j.agwat.2017.12.018

45. Klug, K., **K.A. Reynolds**, J.Y. Yoon. 2018. A Capillary Flow Dynamics-Based Sensing Modality for Direct Environmental Pathogen Monitoring. Chemistry: A European Journal. DOI: 10.1002/chem.201800085. *Designated a "Hot Paper" indicating referee evaluation reports that article is of great significance as defined by being in the top 20th percentile of positive reviews.

46. Wilson, A.M., K.A. Reynolds, R.A. Canales. 2018. Predicting viral infection risks and optimizing hygiene protocols using a modeling approach. American Journal of Infection Control. 46(6): S42-S43. DOI: https://doi.org/10.1016/j.ajic.2018.04.093

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- Waterborne Pathogens: Emerging Issues in Monitoring, Treatment and Control, Part 3. 2012. 54(5):58-60
- Waterborne Pathogens: Emerging Issues in Monitoring, Treatment and Control, Part 2. 2012. 54(4):44-46
- Waterborne Pathogens: Emerging Issues in Monitoring, Treatment and Control, Part 1. 2012. 54(3):60-64
- Water: What We Worry About Most. 2012. 54(2):78-80
- Viruses and Cancer: Potential for Waterborne Transmission. 2012. 54(1):54-57
- Ultraviolet Light-Resistant Viruses Revealed. 2011. 53(12):54-56
- An Emerging and Deadly Waterborne Virus: Human Enterovirus 68. 2011. 53(11):52-54
- Patterns of Persistence in Waterborne Winter Vomiting Disease. 2011. 53(10):74-76

- Surveillance Networks—Improving the National Waterborne Disease Database. 2011. 53(9):48-50
- Amphetamines and Arsenic: Use of Biomonitoring in Exposure Assessment. 2011. 53(8):52-54
- Germany's *E. coli* Outbreak and Water Quality Protection Needs. 2011. 53(7):50-52
- Keeping Up with Water Reuse at the Point-of-Use. 2011. 53(6):52-54
- Trade-Offs to Pandemic Disease Treatment: Impact of Increased Use of Medicines and Water Quality. 2011. 53(5):60-64
- State Budget Cuts and Drinking Water Quality Impacts. 2011. 53(4): 2-54
- Comprehensive Review on the Causes of Waterborne Outbreaks. 2011. 53(3):58-60
- Water Quality and Acceptable Risk: Are We Safe Enough? 2011. 53(2):84-86
- New Information on Waterborne *Cryptosporidium* and the Role of Biofilms. 2011. 53(1):46-48
- Common Drinking Water Contaminant Linked to Intellectual Impairment in Children. 2010. 52(11):60-62
- Myths and Mysteries of Gut Flora, Acquired Immunity and Human Disease. 2010. 52(10):72-74
- Sex and Microbes--How Promiscuous Pathogens Promote Human Disease. 2010. 52(9):62-64
- A New Vision for Drinking Water Protection. 2010. 52(8):58-60
- Novel Study Improves Toxicity Analysis of Disinfection Byproducts in Drinking Water. 2010. 52(7):66-69
- Mysterious Microbe in Water Challenges the Very Definition of a Virus. 2010. 52(6):56-58
- 'Infectobesity'--Can Waterborne Viruses Cause Excessive Weight Gain? 2010. 52(5):66-67
- New Source Water Links to Increasing Norovirus Infections. 2010. 52(4):48-50
- Evidence of Novel Waterborne Parechoviruses Associated with US Infant Deaths. 2010. 52(3):70-72
- *Clostridium difficile* Bacteria Fountains--the Potential Problem with Vended Drinks. 2010. 2010. 52(2):84-86
- Consumer Confidence Wanes as US Drinking Water Quality Takes a Hit in the Headlines. 2010. 52(1):58-59
- Increased Risks in the Elderly from Tap Water Consumption. 2009. 51(12) 56-58
- Please Don't Poop in the Pool. 2009. 51(11):62-64
- Situation *Aeromonas*. 2009. 51(10):56-58
- Water Quality Impact on World Health Improvement Goals. 2009. 51(9):60-63

- APHA Explores the Public Health Challenge of Water. 51(8):62-63
- Co-Contaminant Calamities: Arsenic and Influenza. 2009. 51(7):66-67
- Jumping the Species Barrier: How Animal Pathogens Invade Human Hosts. 2009. 51(6):64-66
- *Clostridium difficile* Infections: An Emerging Epidemic. 2009. 51(5):60-62
- Recreational Waterborne Disease at an All-Time High. 2009. 51(4):56-58
- Populations at Risk from Private Water Supplies. 2009.51(3):78-79
- The Science of Disease Eradication. 2009. 51(2):102-103
- WHO's Updated Guidelines for Drinking Water Quality. 2009. 51(1):60-63
- What does *E. coli* in Water Really Mean? 2008. 50(12):70-73
- New Clues in Understanding Biofilm Formation. 2008. 50(11):78-80
- Arsenic and Diabetes: Significance of Drinking Water Exposures. 2008. 50(10):86-88
- Bisphenol A: Health Risk or Media Hype? 2008. 50(9):90-94
- POE/POU: A Benefit for Small Community Water Treatment. 2008. 50(8):70-72
- Public Reaction to Boil Water Notices in the United States. 2008. 50(7):84-87
- *Salmonella*: A State of Emergency. 2008. 50(6):72-75
- A Warning for Contact Lens Wearers: Waterborne Amoeba Can Cause Blindness. 2008. 50(5):72-74
- Concern of Pharmaceuticals in Drinking Water. 2008. 50(4):72-74
- Estimating Consequences of Toxic Water Exposures. 2008. 50(3):110-111
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- Preventing Hepatitis A Infections—A Multibarrier Approach to Success. 2008. 50(1):66-68
- Water Quality Monitoring—Lessons from the Developing World. 2007. 49(12):66-68
- Harmful Water-Based Amoeba in the News Again. 2007. 49(11):74-76
- New Website Provides Essential Drinking Water Information. 2007. 49(10):90-92
- Eliminating the Fiery Serpent *Dracunculus medinensis*. 2007. 49(9):106-108
- *Legionella* Disease Transmission and the Role of Potable Water Systems. 2007. 49(8):64-66
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- Immigration and Infectious Disease: Increases in Neurocysticercosis. 2007. 49(6):78-80
- A New Tool for Tracking the Public Health Impact of Drinking Water. 2007. 49(5):72-75
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- Vulnerabilities of the Drinking Water Distribution System. 2007. 49(3):108-110
- Premise Plumbing Risks. 2007. 49(2):112-114

- Groundwater Disinfection Rule: Part II. 2007. 49(17):62-64
- Groundwater Disinfection Rule: Part I. 2006. 48(12):66-68
- *E. coli* Outbreak in Spinach: A Possible Waterborne Route. 2006. 48(11):64-65
- Size Matters: If You're a Microbe. 2006. 48(10):88-90
- Coliphage: A Better Water Quality Indicator. 2006. 48(9):100-105
- Pregnancy and DPBs: A Research Update. 2006. 48(8):74-76
- Tap Water and Bladder Cancer. 2006. 48(7):82-84
- Avian Influenza and the Waterborne Route. 2006. 48(6):70-74
- Hazard Identification. 2006. 48(5):62-64
- POU Water Treatment: Saving Lives in the Developing World. 2006. 48(4):64-66
- Justifying the Need for Point-Of-Use Water Treatment. 2006. 48(3):98-100
- Emerging Waterborne Pathogens. 2006. 48(2):104-106
- Newly Identified Tap Water Sources of Pathogenic Amoeba. 2006. 48(1):58-60

Reynolds, K.A. Series of review articles published in Agua Latinoamérica. Trade journal articles peer reviewed by a Technical Advisory Committee. Articles (n=135) translated and published quarterly from 2001-2009 in print and monthly since 2010 online (2014-2019):

- Nuevo Informe sobre las Enfermedades Transmitidas por el Agua Destaca la Necesidad de PGrupos de Defensa del Agua Potable Critican las Leyes sobre el Derecho a la Información del Consumidor. March 2021. https://agualatinoamerica.com/2021/03/15/grupos-de-defensa-del-agua-potable-critican-las-leyes-sobre-el-derecho-a-la-informacion-del-consumidor/
- Protección de la Salud Pública. January 2021. http://agualatinoamerica.com/2021/01/15/nuevo-informe-sobre-las-enfermedades-transmitidas-por-el-agua-destaca-la-necesidad-de-proteccion-de-la-salud-publica/
- Incendios Forestales y Calidad del Agua. November 2020. http://agualatinoamerica.com/2020/11/15/incendios-forestales-y-calidad-del-agua/
- Los Beneficios y Riesgos de los Suministros de Agua Embotellada. September 2020. http://agualatinoamerica.com/2020/09/15/los-beneficios-y-riesgos-de-los-suministros-de-agua-embotellada/
- Prevención de la Propagación de COVID-19 en el Lugar de Trabajo. July 2020. http://agualatinoamerica.com/2020/07/15/prevencion-de-la-propagacion-de-covid-19-en-el-lugar-de-trabajo/
- La Preparación tiene que Mitigar los Brotes Inevitables de Enfermedades a Nivel Mundial. January 2020. http://agualatinoamerica.com/2020/01/15/la-preparacion-tiene-que-mitigar-los-brotes-inevitables-de-enfermedades-a-nivel-mundial/
- El Riesgo Incierto de las Exposiciones a las Piretrinas. November 2019

- De la Exposición a la Enfermedad: ¿Qué Pasa Si Usted Bebe Agua Contaminada? September 2019
- Microplásticos en el Agua Potable. July 2019
- Un Nuevo Programa de Capacitación en Línea: Prevención de la Enfermedad del Legionario. May 2019
- Agua Potable, Aguaceros y Enfermedades. March 2019
- El Futuro de la Calidad del Agua y la Sostenibilidad. January 2019
- Hepatitis A: Enfermedad Emergente y Rutas Potenciales de Transmisión a través del Agua. [Hepatitis A: Emerging Disease and Potential Transmission Routes through Water] January 2018
- Recuentos Menores de Espermatozoides Asociados con Contaminantes Propagados a través del Agua en el Mundo Desarrollado.[Decreased Sperm Counts Associated with Waterborne Contaminants in the Developed World] September 2017
- Controlando los Subproductos de la Desinfección en las Piscinas. [Controlling DBPs in Swimming Pools] August 2017
- Con Vigencia Inmediata: Se Requiere que los Establecimientos de Cuidado de Salud Reduzcan los Riesgos de Contraer Legionellosis del Agua de la Llave [Effective Immediately: Healthcare Facilities Required to Reduce Tap] July 2017
- Lluvias de Verano Aumentan el Riesgo de Virus Humanos en el Agua Subterránea [Summer Rains Increase Risk of Human Viruses in Groundwater] June 2017
- Búsquedas de Internet Ayudan a Seguir la Pista de las Enfermedades Transmitidas por el Agua [Internet Queries Help Track Waterborne Disease] May 2017
- Efectos Inciertos del PFOA y PFOS [Uncertain Effects of PFOA and PFOS] April 2017
- Filtros de Punto de Uso para el Hogar: Centinelas para el Monitoreo a Largo Plazo del Agua de la Llave [Household POU Filters: Sentinels for Long-term Tap Water Quality Monitoring] March 2017
- Virus Prevalente del Chile: Un Marcador de la Contaminación [Prevalent Pepper Virus: A Contamination Tracker] February 2017
- Filtración en el Punto de Uso: Algo Esencial para un Plan de Seguridad del Agua [POU Filtration: A Water Safety Plan Essential] January 2017
- Arsénico en Pozos Privados: Un Peligro Poco Reconocido [Arsenic in Private Wells: An Under-recognized Hazard] December 2016
- Comprendiendo el Impacto de la Fracturación Hidráulica “Fracking” en la Calidad del Agua Potable [Understanding the Impact of Fracking on Drinking Water Quality] November 2016
- Dispositivos de PDU Esenciales para Reducir Enfermedades y Mortalidad en Países Menos Desarrollados [POU Devices Key for Reducing Illness and Death] October 2016
- ¿Debiéramos Implementar una ‘Ley de Agua Segura para Respirar?’ [Should We Implement a ‘Safe Breathing Water Act?’ September 2016

- Eliminando el Cloro Residual del Agua de la Llave [Eliminating Chlorine Residuals from Tap Water] August 2016
- El aumento de la *Legionella* [The Rise of *Legionella*] July 2016
- Problemas de Agua Potable Preocupan a los Estadounidenses [Drinking water problems concerning Americans] June 2016
- *Elizabethkingia*: Un Patógeno Mortal y Emergente Potencialmente Vinculado al Agua [*Elizabethkingia*: A deadly and emerging pathogen potentially linked to water] May 2016
- Nosotros podemos librar a nuestro abastecimiento de agua potable de plomo? [Can We Rid Our Drinking Water Supply of Lead?] April 2016
- Las Diferencias en los Muestroeos del Agua Generan Análisis de Riesgos Deficientes [Water sampling differences lead to flawed risk assessments] March 2016
- Condiciones Corrosivas—Cómo Afecta a la Salud Pública Este Problema tan Común [Corrosive Conditions- How this Common Issue Impacts Public Health.] February 2016
- Asuntos de Agua: Inquietudes Globales y Asuntos Globales [Water Issues: Global Concerns and Global Issues] January 2016
- Nuevas Herramientas para Evaluar los Riesgos del Agua Subterránea [New tools for assessing groundwater risks] December 2015
- Desinfección del Agua Potable: Opciones y Gestión de Peligros [Drinking Water Disinfection: Options and Hazard Management] November 2015
- La Metadona Crea Subproductos Dañinos en el Agua Potable Tratada [Methadone Creates Harmful Byproducts in Treated Drinking Water] October 2015
- *Legionella* Un Peligro Formidable Propagado a través del Agua [Legionella: A Formidable Danger Spread Through Water] September 2015
- Las Aguas más Tibias Aumentan la Producción de Algas Tóxicas [Warmer Waters Heighten Toxic Algae Production] August 2015
- La Filtración del Agua en el PDU Salva Vidas en California [POU Water Filtration Saving Lives in California] July 2015
- Prevención en el Punto de Uso de Infecciones Contraídas a través del Agua durante el Cuidado de la Salud [POU Prevention of Healthcare Acquired Waterborne Infections] June 2015
- ¿Por qué Utilizar un Dispositivo de PDU? [Why use a POU device] May 2015
- Riesgo y Gestión de Residuos Industriales en las Fuentes de Agua Potable [Industrial Waste Risk and Management in Drinking Water Sources] April 2015
- Celebrando el 40mo Aniversario del Acta del Agua Potable Segura y Reconocimiento de los Retos Futuros [Celebration of the Safe Drinking Water Act's 40th Anniversary and Recognition of the Challenges Ahead] March 2015
- La percepción Humana es un Mal Indicador de la Preocupación por la Calidad del Agua [Human Perception is a Failed Indicator of Water Quality Concern] February 2015
- Aguas Grises: Un Repaso de su Reutilización y Riesgos [Graywater: Reuse and Risks Revisited] January 2015

- Flujos Excesivos de Aguas Cloacales Impactan Ciudades de EEUU/Salud Pública [Sewage Overflows Impact US Cities/Public Health] December 2014
- ¿Es el Ébola un Virus Propagado por el Agua? [Is Ebola a Waterborne Virus?] November 2014
- Contaminantes Propagados a través del Agua y Aumento en la Incidencia del Síndrome de Intestino Irritable [Waterborne Contaminants and Increasing Incidence of Irritable Bowel Syndrome] October 2014
- Guía para la Industria del Punto de Uso: Informe de la AWWA sobre el Estado de la Industria del Agua [Guidance for the POU Industry: AWWA's State of the Water Industry Report] September 2014
- Evaluación de la Amenaza de Amebas de Vida Libre en el Agua Potable [Threat Assessment of Free-Living Amoeba in Drinking Water] August 2014
- Riesgos a la Salud Asociados con las Conexiones Transversales en el Suministro de Agua Potable [Health Risks Associated with Cross-connections in Drinking Water Supply] July 2014
- Amenazas Urgentes de Organismos Resistentes a los Antibióticos [Urgent Threats from Antibiotic-Resistant Organisms] June 2014
- Nuevos Riesgos de Propagación a través del Agua: Un Estudio del aso del Derrame Químico de Virginia Occidental [New Waterborne Risks: A Case Study of West Virginia's Chemical Spill] May 2014
- Enterovirus 68 el Reciente Surgimiento de un Síndrome Parecido al Polio [Enterovirus 68 and the Recent Emergence of a Polio-Like Syndrome] April 2014
- ¿Sabe Dónde Están Sus Ftalatos? [Do You Know Where Your Phthalates Are?] March 2014
- Virus Basado en el Agua Podría Causar Artritis Reumatoide [Water-based Virus May Cause Rheumatoid Arthritis] February 2014
- Las Ciudades Principales de los EEUU Están Quedándose sin Agua [Major US Cities Running Out of Water] January 2014

WORKS IN PROGRESS

Refereed journal articles pending

Manoogian, M.K., M.P. Verhougstraete, R.A. Canales, J.L. Burgess, E. Oren, **K.A. Reynolds**. Microbial diversity evolution of surfaces within a newly opened skilled nursing facility, healthcare workers, and their homes. Environment International. *Submitted*. 10/26/20

Wilson, A.M., Abney, S.E., **Reynolds, K.A.** Can continuously active antimicrobial surface coatings reduce risks of viral and bacterial infections? *In preparation*.

Abdel Shakour, M.A., R.A. Abdel Salam, G.M. Hadad, D.T.A. Youssef, **K.A. Reynolds**. Monitoring of cyanobacterial toxins in Suez Canal region's freshwater, Egypt. Analytical Chemistry Letters. *In progress.*

Canales, R.A., S. Littau, J.D. Sexton, **K.A. Reynolds**. Development of a Simple Return-On-Investment Calculator for Hand Hygiene Compliance Systems Aimed at Preventing Healthcare Acquired Infections. American Journal of Infection Control. *In progress*.

Lee, V.S.T, C.R. Sterling, E. A. Lutz, J.L. Burgess, **K.A. Reynolds**. Factors that influence the parasite-host attraction of *Schistosoma mansoni* and *S. japonicum*: assessment of oleic acid and cercarial age. *In progress*.

Troup, D., M.P. Verhougstraete, J.D. Sexton**, K.A. Reynolds**. Bioaerosol Reduction with a Passive Air Treatment System in a Controlled Chamber. Journal of Infection Prevention. *In progress*.

Scanlon, M.M., P. Hsu, R. Carmona, E. Lutz, **K.A. Reynolds**. Systematic Review and Meta-Analysis: Developing a Benchmark for Evaluating Perceived Stress in Nursing Professionals. Research in Nursing & Health. *In progress*.

Scanlon, M.M., E. Lutz, P. Hsu, C. Etland, **K.A. Reynolds.** Ranking nursing stress risk factors using quantitative models for occupational stress risk assessment. International Journal of Stress Management. *In progress*.

Scanlon, M.M., P. Hsu, R. Carmona, E. Lutz**, K.A. Reynolds**. Role of nature contact: enhancing health-promoting lifestyles to mitigate perceived stress in Southern California RNs. Health Promotion Practice. *In progress*.

Sexton, J.D., **K.A. Reynolds**. Indoor mold control on porous surfaces using household bleach. Journal of Environmental Health. *In progress.*

Grant proposals in progress

Reynolds, K.A., Verhougstraete, M., Sexton, J.D, Wilson, A. Intervention assessment to reduce HAI pathogens and risks in long-term care facilities. 25% effort. AHRQ via NIH. $2,000,000

PRESENTATIONS

Invited

Reynolds, K.A. Evaluating Hygiene Intervention Impacts on Infectious Disease Transmission: Utilizing Microbial Tracers and QMRA Modelling to Quantify Mitigation Effects and Estimate Human Health Outcomes. Reckitt Professional Seminar. January 24, 2022. 58 participants

Reynolds, K.A. Tucson Fallen Fire Fighters Memorial. January 22, 2022. Tucson, AZ

Reynolds, K.A. Continuously Active Disinfectants: Addressing Challenges of Surface Contamination and Biofilm Growth. Cleaning, Disinfection and Sterilization Conference,

Association for Professionals in Infection Control and Epidemiology (APIC). October 28-29, 2021

Reynolds, K.A., C.P. Gerba, B. Adair. Infection Control and Risks: SARS-CoV-2 and other Virus Expertise at UArizona. September 14, 2021. Tucson, AZ

Reynolds, K.A. Risk Communication and Building Public Trust. Water Quality Association (WQA) Convention & Exposition. July 28-30, 2021. Las Vegas, NV.

Reynolds, K.A. Continuously Active Disinfectants: Addressing Challenges of Surface Contamination. TIPS Master Class. Zoom online. (approved for 1.0 contact hour of continuing education credits for nurses). June 22, 2021; 280 registrants, 1,758 views.

Reynolds, K.A. Evaluating Hygiene Intervention Impacts on COVID-19 Infections. Universidad Popular Autonoma del Estado de Puebla (UPAEP). Zoom webinar. June 8, 2021

Reynolds, K.A. Home Hygiene: Keeping Your Home Clean, Safe, and Healthy. UAHS Wellness Wednesdays. June 9, 2021

Reynolds, K.A. Hospitality Re-Entry: Hygiene and Human Health: Utilizing Microbial Tracers and QMRA Modelling to Quantify Infection Risks and Intervention Impacts. RESTRUCT Symposium. May 17, 2021.

Reynolds, K.A. How Clean is Clean? Environmental Risks of HAIs. Munich RE Specialty Insurance Healthcare Risk Management Webinar. January 27, 2021. https://attendee.gotowebinar.com/recording/3846126171433690886 (approved for 1.0 contact hour of continuing education requirements of ASHRM FASHRM (Fellow) and DFASHRM (Distinguished Fellow) and Certified Professional in Healthcare Risk Management (CPHRM) renewal

Reynolds, K.A. COVID-19 Occupational Assessment and Transmission Prevention. MEZCOPH Community Advisory Board. Zoom webinar. May 5, 2020

Reynolds, K.A. COVID-19 Workplace Prevention. YWCA Southern Arizona Small Businesses. Zoom Webinar; Facebook Live. April 30, 2020

Reynolds, K.A. Video to Guide EMS Exposure Reduction. Joint Public Safety Sector (PSS) Council and Healthcare and Social Assistance (HCSA), NORA Council Meeting. Sustaining Emergency Medical Services during COVID-19. March 26, 2020

Sexton, J.D., **K.A. Reynolds.** Smartphone Water Quality Monitoring Field Demonstration. AZ Water Research Symposium, Gateway Community College, Phoenix, AZ. January 9, 2020.

Reynolds, K.A., J.Y. Yoon, S. Chung. Smartphone for Water Quality: Smartphone Detection from Paper Microfluidics for Monitoring Water Quality. National Science Foundation Water & Environmental Technology (WET) Center Semi-annual Meeting. Tempe, AZ. December 6, 2019.

Reynolds, K.A., J.D. Sexton. Getting Down and Dirty with Environmental Health Concerns. Keeping Up With Public Health podcast. Western Region Public Health Training Center. September 25, 2019. https://www.listennotes.com/podcasts/keeping-up-with/episode-4-getting-down-and-vQLauNbE3fm/

Reynolds, K.A., A.M. Wilson, R.A. Canales. Estimating effects of human behaviors and cleaning interventions on infection risk using QMRA. Canadian Standards Association. Webinar. Vancouver, BC, Canada. November 19, 2018.

Reynolds, K.A. Household POU Pathogen Study. WQA Radio Podcast, "In the Know" WQRF Webinar. November 14, 2019. https://soundcloud.com/user-141188699/wqa-radio-148-kelly-reynolds/s-wjbbW

Yoon, J.Y., **K.A. Reynolds**. Field Testing of Real-Time Detection of Human Pathogenic Viruses Using Smartphone Technology. Water and Environmental Technology Center. December 12, 2019.

Reynolds, K.A., J.Y. Yoon, S. Chung. Smartphone Norovirus Detection in Water using Paper Microfluidics. WEST Center Industry Meeting. November 18, 2019.

Reynolds, K.A. In the Know Series: Household Point-of-Use Pathogen Study. Water Quality Research Foundation Webinar. November 14, 2019.

Reynolds, K.A. QMRA Work Group Update. Healthcare Infection Transmission Systems (HITS) Conference. Nashville, TN. September 14, 2018.

Wilson, A.M., R.A. Canales, **K.A. Reynolds**. Utilizing Modeling Approaches to Estimate Infection Risks, Intervention Efficacies, and Microbial Reductions Needed to Meet Risk Targets. Healthcare Infection Transmission Systems (HITS) Conference. Nashville, TN. September 14, 2018.

Reynolds, K.A. Environmental Health Capacity Building. Northern Pacific Environmental Health Association (NPEHA) Conference. Guam. July 19, 2018.

Verhougstraete, M.P., J. Gerald, **K.A. Reynolds**, C.P. Gerba. Cost-Benefit of Point of Use Devices for Lead Reductions. American Water Works Association. Denver, Co. June 11, 2019.

Reynolds, K.A. Water Quality Monitoring and Cost Benefits of POU Devices. 2019 Water Quality Association Conference and Exposition. Las Vegas, NV. April 24, 2019.

Wilson, A.M., **K.A. Reynolds**, M.P. Verhougstraete, R.A. Canales. Using Simulation Modeling to Estimate the Effect of Human Behaviors and Cleaning Interventions on Infection Risk. American Society of Safety Engineers (ASSE). Tempe, AZ. April 19, 2018

Reynolds, K.A. Study Briefs: Cost Benefit of POU Filters; Household POU Filters for Monitoring of Tap Water. Water Quality Association Annual Convention and Exposition. Denver, CO. March 28, 2018.

Reynolds, K.A. Strategic Plan for Future Research Initiatives Advancing the POU/POE Industry. Water Quality Research Foundation Development Luncheon. Keynote. Water Quality Association Annual Convention and Exposition. Denver, CO. March 25, 2018.

Reynolds, K.A. Household POU Filters: Tools for Long-term, Large Volume Monitoring of Tap Water Quality and Human Health Risks. Water Quality Association Annual Convention and Exposition. Denver, CO. March 25, 2018.

Reynolds, K.A., J.Y. Yoon. Monitoring Water Safety using Smartphone Detection from Paper Microfluidics. 2017. NSF and the Water, Environment and Technology Center Annual Meeting. Tempe, AZ. December 6, 2017.

Reynolds, K.A. Valuation of Intervention Impacts in Healthcare using the Evidence Based Science of Quantitative Risk Assessment Modeling. Environment Hygiene Interest Group (EHIG) for Infection Prevention and Control Canada (IPAC). Webinar. November 14, 2017.

Reynolds, K.A. Review of the Risk, Communication and Perception of the Santa Clarita Valley Water Softener Ban. Pacific Water Quality Association (PWQA) Annual Meeting. Newport Beach, CA. October 3, 2017.

Reynolds, K.A. Surface Decontamination: Challenges and Perspectives. Healthcare Infection Transmission Consortium. Ann Arbor, MI. September 13, 2017.

Reynolds, K.A., C. Greene. Catalyst for Change: Overview of the Healthcare Infection Transmission Systems (HITS) Consortium. Ann Arbor, MI. September 13, 2017.

Reynolds, K.A. Review of the Risk, Communication, and Perception of the Santa Clarita Valley Water Softener Ban. WQA Annual Leadership Conference. San Diego, CA. September 12, 2017.

Reynolds, K.A. Waterborne Threats in the U.S.: Understanding the Impact of Persistent and Emerging Contaminants. Culligan Dealers Association of North America, Inc. (CDNA) Convention and Product Fair 2017. St. Louis, MO. April 26, 2017.

Reynolds, K.A. Santa Clarita Water Softener Ban and Agricultural Impacts. Water Quality Association Convention and Exposition, Regional and State Government Affairs Committee. Orlando, FL. March 28, 2017.

Pearce-Walker, J., J.D. Sexton, M.P. Verhougstraete, **K.A. Reynolds**, K. Bright. Enteric Viruses as New Indicators of Human and Cattle Fecal Contamination of Irrigation Water. Water and Energy Sustainable Technology Center, University of Arizona. December 12, 2016.

Reynolds, K.A., J.Y. Yoon, S. Chung. Norovirus Detection Using Fluorescence Microscopy. NSF and the Water, Environment and Technology Center Annual Meeting. Tempe, AZ. December 8, 2016.

Reynolds, K.A. Smartphone for Water Quality: Smartphone Detection from Paper Microfluidics for Monitoring Water Safety. Arizona Water Conference. Phoenix, AZ. November 4, 2016.

Reynolds, K.A. Keynote speaker. Water Threats: Known and Unknown. PHSI Dealer Meeting. Las Vegas, NV. October 6, 2016.

Reynolds, K.A. Quantifying the Impact of Environmental Services in Infection Prevention: Use of Risk Assessment Modeling Tools to Evaluate Interventions in Infection Control. Association for the Healthcare Environment (AHE) Exchange 2016. Pittsburgh, PA. September 28, 2016.

Reynolds, K.A., R.A. Canales. Return on Investment Models for Hand Hygiene Compliance Monitoring Systems and Healthcare Acquired Infection Prevention. 43rd Annual Educational Conference of the Association for Professionals in Infection Control (APIC), Breakfast Symposium. Charlotte, NC. June 13, 2016.

Reynolds, K.A. Water and Your Health. The Third Annual Environmental Science and Health Youth Conference. Tucson, AZ April 28, 2016.

Reynolds, K.A. Keynote speaker. Waterborne Pathogens: Emerging Issues in Monitoring, Treatment and Control. Multipure Annual Conference and Exposition. Henderson, NV. April 16, 2016.

Reynolds, K.A. How to Work with PR and the Media. Mel & Enid Zuckerman College of Public Health Faculty Development Meeting. Tucson, AZ February 12, 2016.

Reynolds, K.A. 2016 Arizona Water Research Workshop. Smartphone App and Risk Assessment Model Development. Tempe, AZ, January 14, 2016.

Reynolds, K.A., Germ Geography: Understanding Public Infection Spread. GOJO/Essendant Conference. San Diego, California. December 7, 2015.

Reynolds, K.A., J.Y. Yoon. Smartphone for Water Quality: Smartphone Detection from Paper Microfluidics for Monitoring Water Safety. Water and Environmental Technology Center/ National Science Foundation industry/University Cooperative Research Center Annual Meeting. Tucson, AZ. December 10, 2015.

Reynolds, K.A. Invited Speaker. Mel & Enid Zuckerman College of Public Health Scholarship Luncheon. Arizona Inn, Tucson, AZ, October 30, 2015.

Reynolds, K.A., L. Lybert, J.D. Sexton. Evaluation and Control of Infectious Microbes in Healthcare Environments: New Evidence for Best Practices. AHE Exchange 2015. Grapevine, TX, September 21, 2015.

Reynolds, K.A. Invited Participant. Environmental Hygiene: Ebola and Other Emerging Pathogens in Healthcare. Centers for Disease Control and Prevention Headquarters. Atlanta, GA, September 14, 2015.

Reynolds, K.A. WQA Research Final Report: Boil Water Notices in the U.S., 2012-2014. Water Quality Association Mid-year Meeting. Tucson, AZ, September 2, 2015.

Reynolds, K.A. M.P. Verhougstraete, A.H. Tamimi, C.P. Gerba. Point-Of-Use Water Treatment Cost-Effectiveness Analysis. Water Quality Association Mid-year Meeting. Tucson, AZ, September 2, 2015.

Reynolds, K.A. Fourth conference of the Microbiology of the Built Environment series. Boulder, CO, July 15-18, 2015.

Reynolds, K.A., L. Lybert, J.D. Sexton. Rapid Microbial Tracer Movement to Soft Surfaces in Patient Care Areas and the Role of Mixed Surfaces in Infection Prevention. APIC, Nashville, TN, June 28, 2015

Reynolds, K.A. WQA Research Updates: Boil Water Notices in the U.S., 2012-2014. Las Vegas NV, April 21, 2015.

Reynolds, K.A. Risky Behaviors. (How Personal Perceptions Drive Fears and Behaviors) Desert Produce Safety Collaborative Conference. Yuma, AZ, March 31, 2015

Reynolds, K.A. Can You Risk It? (Use of Tools in Quantitative Risk Assessment to Evaluate Food Safety Challenges and Solutions). Desert Produce Safety Collaborative Conference. Yuma, AZ, March 30, 2015

Reynolds, K.A. Fluoride Risk Assessment/Endetec Monitoring of Coliform Bacteria in Water/ Smartphone Microfluidic Water Quality Monitoring. Tucson Water/University of Arizona Project Updates. Citizen's Water Advisory Committee. Technical /Planning and Policy Subcommittee. Tucson, AZ, March 25, 2015.

Reynolds, K.A. Waterborne Pathogen Monitoring. Environmental Health Sciences Seminar Series. February 18, 2015

Victory, K.R., N. Cabrera, D. Larson, **K. A. Reynolds**, J. Latura, P.I. Beamer. Risk perception of drinking water quality in a US-Mexico Border community. Society for Risk Analysis. Denver, CO, December 7, 2014

Reynolds, K.A. Waterborne pathogens: Emerging issues in monitoring, treatment, and control. Maricopa County Waterborne Disease Taskforce. Phoenix, AZ, October 30, 2014

Reynolds, K.A. The sexy side of risk assessment. 5th Annual Food Safety Conference: Food Safety and One Health. Tucson, AZ, October 10, 2014

Reynolds, K.A. Morning session moderator- speakers' panel discussion. 5th Annual Food Safety Conference: Food Safety and One Health. Tucson, AZ, October 10, 2014

Reynolds, K.A. Soft surface infection prevention. McKesson Webinar Wednesdays. September 2014. CEU credits offered.

Reynolds, K.A. Trends in Environmental Hygiene: Preventing and Controlling Infections. Arizona Health Care Association's Annual Conference & Trade Show. Scottsdale, AZ. August 20, 2014

Reynolds, K.A. Case Studies in Environmental Risk Assessment: Successful translation from the field to public health practice. 3rd Annual Sloan Foundation Meeting on Microbiology of the Built Environment. Boulder, CO, June 5, 2014 (Plenary)

Reynolds, K.A. HAI Prevention and Control: Soft Surface Decontamination. Medical World Americas Conference. Houston, TX, April 29, 2014

Victory, K.R., N. Cabrera, D. Larson, **K.A. Reynolds**, J. Latura, P.I. Beamer. Risk perception of drinking water quality and in a US-Mexico Border community. Risk, Perception, and Response Conference. Harvard Center for Risk Analysis. Boston, MA, March 20-21, 2014

Reynolds, K.A. Podcast. Long-Term Care Facility Infections. Long Term Living. 2014

Reynolds, KA. New Trends in Environmental Hygiene: Decontaminating Soft Surfaces. Infection Control Today (ICT) Webinar. March 2014-2015. CE credits offered.

Reynolds, K.A. Infection Control Today Q &A on Environmental Contamination**.** 2014

Reynolds, KA. New Trends in Environmental Hygiene: Decontaminating Soft Surfaces. Association for the Healthcare Environment (AHE) Webinar 2013-2014. CE credits offered.

Reynolds, KA. Decontaminating Textiles and Other Soft Surfaces: Evidence-Based Recommendations. Association for the Healthcare Environment (AHE) Exchange 2013 Conference. Indianapolis, IN, 2013

Suppes, L.M., K.C. Ernst, C.P. Gerba, **K.A. Reynolds**. Aquatic Environmental Exposure and Operation Questionnaire Standardization and Validation. 5th International Conference Swimming Pool and Spa. Rome, Italy. April 2013

Suppes, L.M. and **K.A. Reynolds.** Development and Evaluation of a Swimming Pool Water Exposure Assessment Tool. Arizona County Directors of Environmental Health Services Association. Southwest Environmental Health Conference, Laughlin, NV. January 2013

Reynolds, K.A. Human Enteric Pathogens: Emerging Issues in Transmission, Monitoring and Control. International Flavors and Fragrances, Inc. December 2012

Reynolds, K.A. Superbug: The Emergence of MRSA. UA Campus Recreation, Lunchtime Lecture Series. Tucson, AZ. November 2012

Reynolds, K.A., R.G. Sinclair, R.A. Canales, M. Molina, M.E. Penny. Using science to evaluate effects of the arts: Microbiological study of household hygiene conditions. Session 3350.0, Innovations in International Health 1. American Public Health Association's (APHA) 140th Annual Meeting and Exposition. San Francisco, CA, October 2012

Suppes, L.M., **K.A. Reynolds.** Standardization of Health Impact Studies Due to Aquatic Environmental Exposures. 9th annual World Aquatic Health Conference in Norfolk, VA, October 2012

Reynolds, K.A. Human Enteric Pathogens: Emerging Issues in Transmission, Monitoring and Control. MEZCOPH Community Advisory Board Retreat. Tucson, AZ, March 2012

Reynolds, K.A. Waterborne Pathogens: Emerging Issues in Monitoring, Treatment and Control. Water Quality Association, Aquatech USA. Las Vegas, NV, March 2012

Reynolds, K.A. Foodborne Routes of *Clostridium difficile* Infections. Food Safety Retreat. University of Arizona, Tucson, AZ, November 2011

Reynolds, K.A. Waterborne Pathogens: Monitoring, Treatment and Emerging Technologies. 3M Corporation. Meriden, CT, October 2011

Reynolds, K.A. Occupational Risks and Mitigation of MRSA Exposures for Fire Service Administrative Staff. Northwest Fire Department. Tucson, Arizona, August 2011

Reynolds, K.A. Risks and Myths of Environmental Disease Transmission. Arizona Department of Health Services (ADHS), Brownbag Workshop. Phoenix, Arizona, March 2011

Reynolds, K.A. Waterborne Pathogen Monitoring. University of Arizona/ Institute of the Environment, Environmental Breakfast Club, March 2011

Reynolds, K.A. MRSA in the Firehouse. UMC/Santa Cruz County EMS Rounds. Nogales, AZ, February 2011

Reynolds, K.A. MRSA and Other Emerging Germs. Southern Arizona Safety Council and City of Tucson Quarterly Safety Meeting. Tucson, AZ, February 2011

Reynolds, K.A. Impact of Bleach on the Reduction of *Salmonella* in Households in Mexico. Clorox Scientific Advisory Board Meeting. San Francisco, CA, May 2010

Reynolds, K.A. Public Health Risk Assessment of Waterborne Disease. Emerging Pathogens in Water Workshop. Water Sustainability Program. Tucson, AZ, March 2010

Plenary Speaker. **Reynolds, K.A.** Environmental Health Risks for Rural Populations. National Rural Health Association 16th Annual Rural Multiracial and Multicultural Health Conference. Tucson, AZ, December 2010

Reynolds, K.A. Mitigation of Nosocomial Disease Transmission – Targeting Surface Contamination and Airborne Exposure Routes. Arizona Rural Quality Network Group, December 2010

Reynolds, K.A. Controlling MRSA Transmission in First Responders. Arizona EMS Working Group, December 2010

Reynolds, K.A. The Fate of *Clostridium difficile* in Treated Wastewater Systems. National Science Foundation, Water and Environmental Technology Center Conference. Tucson, AZ, December 2009

Reynolds, K.A. Building Infection Control in the Fire Station. University of Washington Department of Environmental and Occupational Health Sciences seminar series. Seattle, WA, December 2009

Reynolds, K.A. Infectious Disease: How to Protect Yourself. Workshop. Twentieth Symposium on the Occupational Health and Hazards of the Fire Service. International Association of Fire Fighters. Los Angeles, CA, November 2009

Reynolds, K.A., E. Nied. MRSA Exposure Assessment in First Responders. Current Concepts in Emergency Medicine. Phoenix, AZ, February 2009

Sexton, J.D., **K.A. Reynolds**, E. Nied. Infectious Diseases and Your Emergency Vehicles. Fire Department Safety Officers Association. Orlando, FL. January 2009

Nied, E., **K.A. Reynolds**, W.F. Peate. Communicable Diseases and MRSA Study. Fire Department Safety Officers Association. Orlando, FL. October 2008

Reynolds, K.A. Infectious Disease Training. Fire and Emergency Manufacturers and Services Association Annual Meeting. Tucson, AZ, October 2008

Reynolds, K.A. Quantitative Microbial Risk Assessment: State of the Art. Global Issues in Water, Sanitation, and Health. Forum on Microbial Threats, Board on Global Health, Institute of Medicine. Washington, D.C. September 2008

Reynolds, K.A. Invisible Intruders: Evaluating the Waterborne Disease Burden in the U.S. and Arizona. Arizona Public Health Association 80th Annual Meeting. Tucson, AZ, September 2008

Reynolds, K.A. Infectious Disease Guidelines and MRSA. Fire-Rescue International Training Workshop. Denver, CO, August 2008

Reynolds, K.A. Preventing MRSA in the Fire House. 2008 Fire Service Leadership Conference. Glendale, AZ, July 2008

Reynolds, K.A. Integrated Capture and Spectroscopic Detection of Viruses. Undergraduate Biology Research Program. Tucson, AZ, June 2008

Reynolds, K.A. Building Infection Control into Fire Stations. Station Style Conference. Phoenix, AZ, April 2008

Reynolds, K.A. Keynote speaker, How to Stay Healthy in a World of Emerging Infections. Arizona Public Health Luncheon. Tucson, AZ, April 2008

Reynolds, K.A. Point-of-Use Drinking Water Devices for Assessing the Extent of Microbial Contamination in Finished Water and Distribution Systems. S. Miles, K. Reynolds, I. Pepper. NSF-WQC Fall Conference. Phoenix, AZ, December 2007

Reynolds, K.A. Risk Assessment Endpoints. 107th meeting of the American Society for Microbiology. Toronto, Canada, May 2007

Reynolds, K.A. Emerging Contaminants and Food Safety. 107th meeting of the American Society for Microbiology. Toronto, Canada, May 2007

Reynolds, K.A. Methods of Virus Detection in the Environment. K. Reynolds. Training workshop, Water Quality Managers. Tucson, AZ, May 2007

Reynolds, K.A. The Fight against Germs. Health and Wellness Workshop. Puerto Rico, March 2007

Reynolds, K.A. The Healthy Home. World of Moms workshop series. San Antonio, Tampa, San Francisco, Phoenix, Philadelphia, Atlanta, Portland, Boston, August/September 2006

Reynolds, K.A. Cleaning up the Classroom. Elementary School Teachers workshop series. San Antonio, Tampa, San Francisco, Phoenix, Philadelphia, Atlanta, Portland, Boston, August/September 2006

Reynolds, K.A. Emerging Foodborne Pathogens: What's on the Horizon? Arizona Maricopa County Cooperative Extension Food Safety 2010 Conference. Phoenix, AZ, July 2006

Reynolds, K.A. Noninvasive Cell Spectroscopy for the Detection of Human Viruses in Water. NSF-WQC Conference. Tempe, AZ, July 2006

Reynolds, K.A. Laundry Microbial Research. Home Appliance Technology Fair. Samsung, Inc. New York City, March 2006

Reynolds, K.A. Emerging Contaminants in Drinking Water. Water Quality Association Annual Conference. Chicago, IL, March 2006

Reynolds, K.A. The Significance of Emerging Waterborne Pathogens. Water Quality Association Aquatech USA. Chicago, IL, March 29, 2006

Submitted presentations

Jung, Y., Wilson, A.M., **Reynolds, K.A.** What Risks Does the Residential Laundry Process Pose?: A Quantitative Microbial Risk Assessment (QMRA) Study**.** APIC 2022 Annual Conference. June 13, 2022

Breshears, L., S.M. Robles, **K.A. Reynolds**, J.Y. Yoon. Flow rate profile based PFOA detection on paper-based microfluidics using competitive interactions with albumin and nitrocellulose.

Oral and poster presentations. American Chemical Society (ACS). Atlanta, GA, August 22-26, 2021.

Wilson, A., M-F. King, M. Lopez-Garcia, I. Clifton, J. Proctor, **K. Reynolds**, C. Noakes. Integrating CFD and exposure modeling for estimating viral exposures at the air-surface interface. 2021 AIAA AVIATION Forum and Exposition Conference Proceedings. Virtual. August 2-6, 2021

Lugo, V.L., J.D. Sexton, **K.A. Reynolds**. Use of a Germicidal Ultraviolet (UVC) Light on Porous and Non-porous Textiles to Reduce *Staphylococcus aureus* and *Escherichia coli* Contamination in Emergency Medical Services (EMS) Vehicles. Virtual Conference on Zoom. American Society of Safety Professionals (ASSP)- American Industrial Hygiene Association (AIHA) Joint Conference. April 12, 2021

Abney, S.E., A.W. Wilson, M.K. Ijaz, **K.A. Reynolds**, C.P. Gerba. Infectious disease quantitative assessment: risk of infection through fomite-mediated transmission in a restroom. ENVS Departmental Conference: Envision. Tucson, AZ. 2021

Cooksey, E., K. Hamilton, A. Zimmer-Faust, **K. Reynolds**, J. Burgess, M. Verhougstraete. Estimating *V. parahaemolyticus* illness risk from Pacific oysters harvested in Southern California using a quantitative microbial risk assessment framework. MEZCOPH Public Health Poster Forum. Tucson, AZ. 2021

Morales, A.A., M. Ramirez-Andreotta, C.P. Gerba, **K.A. Reynolds**. Sanitary sewer overflows in Ambos Nacos- a quantitative microbial risk assessment at Naco elementary. American Society of Agronomy; Crop Science Society of America and Soil Science Society of America conference. ASA, CSSA & SSSA International Annual Meeting- Virtual, November 9-13, 2020.

Wilson, A.M., M. Felipe-King, C. Noakes, **K.A. Reynolds**. Modelling the influence of room orientation and care type on differences in norovirus exposure via an air-surface interface transmission route. Oral presentation at Indoor Air Conference. Online. November 1, 2020

Wilson, A.M., King, M-F., Jaykus, L-A., Escudero-Abarca, B., Gerba, C.P., Canales, R.A., Sexton, J.D., Clifton, I., Proctor, J., Noakes, C.J., & **Reynolds, K.A.** Defining "clean" in indoor environments with a QMRA risk-based approach: The need for multi-route exposure assessment. Indoor Air Conference. Online. November 1, 2020

Wilson, A.M., M. Felipe-King, M.H. Weir, M.P. Verhougstraete, P.I. Beamer, **K.A. Reynolds**. COVID-19 Infection Risk: Are there differences between eating and non-eating behaviors? Poster presented at the International Society of Exposure Science (ISES). 2020 Annual Meeting. Online. September 21-22, 2020 *First place poster.

Wilson, A.M, M.P. Verhougstraete, P.I. Beamer, M. Felipe-King, **K.A. Reynolds**, C.P. Gerba. Characterizing hand-to-face contact frequency and sequence for adults. Oral presentation at the International Society of Exposure Science (ISES). 2020 Annual Meeting. Online. September 21-22, 2020

Wilson, A.M., E.R. Myers, J. Hanlin, **K.A. Reynolds**. NSF Legionella Conference 2020. Chicago, IL. August 19-21, 2020

Lugo, A. A.M. Wilson, **K.A. Reynolds**. Evaluating the use of ultraviolet light to reduce transmission of methicillin-resistant *Staphylococcus aureus* in emergency medical service vehicles. Poster Presentation. APIC 2020 Annual Conference. Phoenix, AZ. June 10-12, 2020.

Wilson, A.M, M. Felipe-King, C. Noakes, **K.A. Reynolds**. Comparing contaminant transfer potential of repetitive hand-to-fomite contacts for gloved and ungloved hands using a fluorescent powder. Poster Presentation. APIC 2020 Annual Conference. Phoenix, AZ. June 10-12, 2020

Sexton, J.D., **K.A. Reynolds**, F. Garavito, B. Anderson, J. Ivaska. Whole-room hypochlorous acid atomizing disinfection system on healthcare surface contamination and transfer. Poster Presentation. APIC 2020 Annual Conference. Phoenix, AZ. June 10-12, 2020

Wilson, A.M., M.P. Verhougstraete, P.I. Beamer, M.F. King, K.A. Reynolds, C.P. Gerba. Characterizing frequency and sequence of adults' and children's hand-to-head, -mouth, -eyes, and -nose contacts. Poster session, UA, Discover BIO5 Research to Innovation Showcase. Tucson, AZ

Wilson, A.M., M.P. Verhougstraete, C.J. Donskey, **K.A. Reynolds**. Estimating the contribution of a contaminated wheelchair to pathogen spread with an agent-based model. The Society for Healthcare Epidemiology of America's (SHEA) 6th Decennial International Conference on Healthcare Associated Infections. Atlanta GA. March 29, 2020

Sepulveda, S.R., A. M. Wilson, **K.A. Reynolds**, C.P. Gerba. Impact of a hand sanitizer with a residual effect on bacterial exposures. MEZCOPH Student Research Poster Forum. March 2019.

Verhougstraete, M.P., C.P. Gerba, **K.A. Reynolds**. Cost-benefit of point-of-use devices for lead reduction. American Water Works Association Annual Conference and Exhibition (AWWA ACE). Denver, CO. June 9-12, 2019

Hunt, B., **K.A. Reynolds**, A.M. Wilson. Engineered Infection Prevention: The Intelligent Self-Disinfecting Hospital. American Society for Healthcare Engineering (ASHE) 2019 Summit & Exhibition on Health Facility Planning, Design & Construction (PDC). Phoenix, AZ, March 17-20

Wilson, A.M. **K.A. Reynolds**, R.A. Canales, C.P. Gerba. Estimating the Effect of a Unique Hand Sanitizer on Norovirus Infection Risk. Poster. International Food Safety and Environmental Virology (IFSEV) Conference. Tempe, AZ. October 7-10, 2018

Troup, D., M.P. Verhougstraete, J.D. Sexton**, K.A. Reynolds**. Bioaerosol Reduction with a Passive Air Treatment System in a Controlled Chamber. Poster. Healthcare Infection Transmission Systems (HITS) Conference. Nashville, TN. September 14, 2018

Wilson, A.M. **K.A. Reynolds**, J.D. Sexton, R.A. Canales. Estimating Microbial Reductions Needed on Surfaces to Achieve Risk Targets. Poster. Healthcare Infection Transmission Systems (HITS) Conference. Nashville, TN. September 14, 2018

Wilson, A.M. **K.A. Reynolds**, R.A. Canales. The Effect of Hand Washing on Fomite-Mediated Norovirus Exposures. International Society of Exposure Science (ISES). August 26-30, 2018

Wilson, A.M. **K.A. Reynolds**, R.A. Canales. Development of a Model for Predicting Viral Infection Risk and Optimizing Hygiene Protocols. 45th Annual Educational Conference of the Association for Professionals in Infection Control (APIC). Denver, CO. June, 2018

Verhougstraete, M.P., J. I. Pearce-Walker, **K.A. Reynolds**. Cost Benefits of Point-of-Use Devices to Reduce Waterborne Diseases. UNC Water Microbiology. May 22-24, 2018

Heusinkveld, D., **K.A. Reynolds**. Risk Assessment: *Legionella pneumophilia* exposure from irrigation with domestic roof-harvested rainwater. The University of Arizona's SWESx Poster Forum. Tucson, AZ. April 11-12, 2018.

Wilson, A.M., R.A. Canales, C.P. Gerba, **K.A. Reynolds.** How Much are Surfaces to Blame in Norovirus Outbreaks? MEZCOPH Poster Forum. *Third place winner, research category. Tucson, AZ. April 6, 2018

Wilson, A.M. **K.A. Reynolds**, R.A. Canales. Validation of a Stochastic Discrete Event Model for Predicting Viral Pathogen Exposure. Arizona Health Science Center Student Showcase Poster Forum. Tucson, AZ. February 21, 2018

Wilson, A.M. **K.A. Reynolds**, R.A. Canales. Stochastic Discrete Event Modeling to Predict Effects of Surface Cleanings on Viral Infection Risk. 2018 Emerging Researchers National (ERN) Conference in STEM. AAAS, Washington, D.C. February 22-24, 2018. *Student won first place in graduate oral presentations in Ecology, Environmental and Earth Sciences category.

Wilson, A. **K.A. Reynolds**, R.A. Canales. Modeling Viral Pathogen Exposure and Risk Reductions for Infection Control Interventions. Lewis Stokes Midwest Center of Excellence (LSMCE) Conference. Indianapolis, IN. October 7, 2017

Sexton, J.D., K. Humphrey, R. Leslie, C. P. Gerba, **K.A. Reynolds**. Effects of Disinfection on the Spread of Virus in an Outpatient Clinic. 44th Annual Educational Conference of the Association for Professionals in Infection Control (APIC). Portland, OR. June 14, 2017

Reynolds, K.A., R.A. Canales, J.D. Sexton, C.P. Gerba. Understanding the Relationships among HAI, Healthcare Surfaces, and Environmental Interventions using QMRA. 44th Annual Educational Conference of the Association for Professionals in Infection Control (APIC). Portland, OR. June 14, 2017

Reynolds, K.A., J.D. Sexton, M.M. Scanlon, V. Lee. Legionellosis Prevention and Response Training for Environmental Health Professionals. 44th Annual Educational Conference of the Association for Professionals in Infection Control (APIC). Portland, OR. June 14, 2017

Troup, D., M.P. Verhougstraete, J.D. Sexton**, K.A. Reynolds**. Bioaerosol Reduction with a Passive Air Treatment System in a Controlled Chamber. MEZCOPH Student Poster Forum. Tucson, AZ. April 2017

Wilson, A.M., J.D Sexton, H.P. Sassi, **K.A. Reynolds**. Microbial Transfer from Soft Surfaces and its Control in Healthcare Settings. MEZCOPH Student Poster Forum. Tucson, AZ. April 2017

Reynolds, A., J.D. Sexton, **K.A. Reynolds**. Quantitative Characterization of Microbial Malodor in Laundry. MEZCOPH Student Poster Forum. Tucson, AZ. April 2017

Reynolds, K.A., J. Sexton, T. Pivo, R. Leslie, A. Tamimi, C. Gerba. The Dynamics of Microbe Spread via Hands and Fomites throughout an Outpatient Clinic. IDWeek. New Orleans, LA. October 26-30, 2016. October 27, 2016

Reynolds, K.A., R.A. Canales. Quantitative risk modeling of healthcare acquired infections and interventions using baseline data and simple models. 43rd Annual Educational Conference of the Association for Professionals in Infection Control (APIC). Charlotte, NC. June 12, 2016.

Verhougstraete, M.P., J.D. Sexton, J. Pearce-Walker, N. Lothrop, **K.A. Reynolds**, K. Bright. Optimal Strategies for Monitoring Irrigation Water Quality and the Development of Guidelines for the Irrigation of Food Crops. The Water Microbiology Conference 2016, The Water Institute at the University of North Carolina. Chapel Hill, NC. May 17-19, 2016

Victory, K.R., **K.A. Reynolds**, N.L. Cabrera, D. Larson, J.L. Burgess, P.I. Beamer. Comparison of Chemical and Microbial Contaminants in Tap, Bottled and Vended Water in a U.S.-Mexico Border Community. International Society of Exposure Science (ISES). Cincinnati, OH, October 12-16, 2015

Ornelas, Y., **K.A. Reynolds**, L. Abrell, S. Grigera, P.I. Beamer. Microbial and Inorganic Contamination in Private Wells along the Santa Cruz River, Arizona. International Society of Exposure Science (ISES). Cincinnati, OH, October 12-16, 2015

Canales, R.A., R. G. Sinclair, M. Soto-Beltran, **K.A. Reynolds**. Simulating Non-Dietary Ingestion of *Listeria monocytogenes* in Residential Environments. International Society of Exposure Science (ISES). Cincinnati, OH, October 12-16, 2015

McCracken, K., T.S. Park, S.V. Angus, **K.A. Reynolds**, J.Y. Yoon. 2015. Smartphone Detection with Paper Microfluidics for Monitoring Water Quality. 5th Annual Food Safety Conference: Food Safety and One Health. Tucson, AZ, October 10, 2014

Sifuentes L.Y., H.P. Sassi, **K.A Reynolds**, J. Clark-Greuel, E. Nichols, K. McGrath, D.W. Koenig. Impact of a Hygiene Intervention on Virus Transmission in a Long Term Care Facility. Association for Professionals in Infection Control and Epidemiology (APIC). Anaheim, CA, June 7, 2014

Reynolds, K.A., J.D. Sexton. Occurrence and Control Occurrence and Control of Pathogens on Soft Surfaces in the Healthcare Environment. Association for Professionals in Infection Control and Epidemiology (APIC). Anaheim, CA, June 7, 2014

Sexton, J.D., **Reynolds, K.A.** Use of Microbial Surrogates to Evaluate Infection Control Procedures in the Healthcare Environment. 114th General Meeting of the American Society for Microbiology. May 17, 2014

Sassi, H.P., L.Y. Sifuentes, D.W. Koenig, **K.A. Reynolds**. Evaluation of a Hygiene Intervention in a Long-term Care Facility. 114th General Meeting of the American Society for Microbiology. May 17, 2014

Victory, K.R., **K.A. Reynolds**, N.L. Cabrera, D. Larson, J.L. Burgess, P.I. Beamer. Comparison of Chemical and Microbial Contaminants in Tap, Bottled and Vended Water in a U.S.-Mexico Border Community. UA Poster Forum. Tucson, AZ, April 2, 2014.

Victory, K.R., N.L. Cabrera, D. Larson, **K.A. Reynolds**, J. Latura, P.I. Beamer. Risk Perception of Drinking Water Quality in a US-Mexico Border Community. Society for Risk Analysis 2013 Annual Meeting. Baltimore, MD, December 9-11, 2013

Victory, K.R., N.L. Cabrera, D. Larson, J. Latura, **K.A. Reynolds**, P.I. Beamer, editors. Risk Perception of Drinking Water Quality in a U.S.-Mexico Border Community. Environmental Research Grad Blitz, Tucson, AZ, November 2013. (Poster awarded 2nd place honorable mention)

Victory, K.R., N.L. Cabrera, D. Larson, J. Latura, **K.A. Reynolds**, P.I. Beamer, editors. Risk Perception of Drinking Water Quality in a U.S.-Mexico Border Community. Graduate and Professional Student Council Student Showcase, Tucson, AZ, November 2013. (Poster awarded 1st place Public Health Sciences)

Pleasant, A., J. Cabe, M. Pereira-Leon, **K.A. Reynolds.** Evaluating what? Marrying Multiple Methods and Multiple Data Types and Sources: Evaluation of the Arts for Behavior Change Program in Lima, Peru. American Public Health Association. Boston, MA, November 2013.

Reynolds, K.A., J.D. Sexton. Evaluation of a Soft Surface Sanitizer in Healthcare Environments. IDWeek 2013. San Francisco, CA, October 2-6, 2013

Reynolds, K.A., L.M. Suppes. Swimming Pool Water Ingestion Exposure Assessment using Videography and Exposure Questionnaires. Abstracts of the 113th General Meeting of the American Society for Microbiology. Denver, CO, May 2013

Valdez, M.K., J.D. Sexton, **K.A. Reynolds**. Transfer and Control of Microbes in Emergency Vehicles. Q1625. Abstracts of the 113th General Meeting of the American Society for Microbiology. Denver, CO, May 2013

Sexton, J.D., M.K. Valdez, **K.A. Reynolds**. Transfer and Control of Infectious Microbes in Emergency Medical Responder Facilities and Apparatuses. Q1626. Abstracts of the 113th

General Meeting of the American Society for Microbiology. American Society for Microbiology. Denver, CO, May 2013

Sexton, J.D., M.K. Valdez, **K.A. Reynolds**. Occurrence of Methicillin-Resistant *Staphylococcus aureus* (MRSA) in fire stations. SEHSA. Public Health Research Poster Forum. Tucson, AZ, March 2013

Valdez, M.K., J.D. Sexton, **K.A. Reynolds**. Transfer and Control of Infectious Microbes in Fire Apparatuses. SEHSA. Public Health Research Poster Forum. Tucson, AZ, March 2013

Victory, K.R., D. Larson, N. Cabrera, **K.A. Reynolds**, P.I. Beamer. Risk Perception, Drinking Water Source Quality in a Low-Income Latino Community along the US-Mexico Border. SEHSA. Public Health Research Poster Forum. Tucson, AZ, March 2013

Suppes, L.M., K.C. Ernst, C.P. Gerba, **K.A. Reynolds**. Influence of Swimmer Activity and Behavior on Pool Water Ingestion. Arizona County Directors of Environmental Health Services Association, Laughlin, NV, January 2013

Valdez, M.K., J.D. Sexton, **K.A. Reynolds.** Transfer and Control of infectious Microbes in Emergency Vehicles. Environmental Research Grad Blitz. Tucson, AZ, November 2012

Valdez, M.K., J.D. Sexton, **K.A. Reynolds**. Surface Disinfecting Efficacy for Reducing Spread of Infectious Microbes in Fire Stations and Apparatuses. Student showcase. Tucson, AZ, November 2012

Suppes, L.M., **K.A. Reynolds**. Standardization and Validation of Aquatic Environmental Exposure and Operations Questionnaires. International Society of Exposure Science (ISES). Seattle, WA, October 2012

Sifuentes, L.Y., P.I. Beamer, K.R. Plotkin, C.P. Gerba, D.W. Koenig, **K.A. Reynolds**. Risk Modeling of Human Viruses on Fomites and the Impact of a Healthy Workplace Intervention. International Society of Exposure Science (ISES). Seattle, WA, October 2012

Suppes, L.M., **K.A. Reynolds**. Chlorine Disinfection Efficacy and Swimmer Exposures at Multiple Pool Depths. National Environmental Health Association (NEHA). San Diego, CA, July 2012

Soto-Beltran, M., K.D. Mena, C.P. Gerba, P. Tarwater, **K.A. Reynolds**, C. Chaidez. Risk Assessment of *Listeria monocytogenes* in Queso Fresco in Culiacan, Mexico. Q1008. Abstracts of the 112th General Meeting of the American Society for Microbiology. American Society for Microbiology. San Francisco, CA, June 2012

Reynolds, K.A., R.G. Sinclair, M. Soto-Beltran, M. Molina, M.E. Penny. Hygiene Assessment in an Urban, Low-Income Community. Q2028. Abstracts of the 112th General Meeting of the American Society for Microbiology. American Society for Microbiology. San Francisco, CA, June 2012

Lopez, G.U., M. Kitajima, A. Havas, **K.A. Reynolds**. The Effect of Disinfectant Wipes on Microbial Transfer. Q1503. Abstracts of the 112th General Meeting of the American Society for Microbiology. American Society for Microbiology. San Francisco, CA, June 2012

Ramirez-Andreotta, M.D., R.M. Maier, J.F. Artiola, M.L. Brusseau, P.I. Beamer, **K.A. Reynolds**. Assessing the Potential Risk of Metal(loid) Exposure from Consumption of Home Produced Vegetables Near the Iron King Humboldt Smelter Superfund Site, Dewey-Humboldt, Arizona. International Society of Exposure Science. Baltimore, MD, November 2011

Ramirez-Andreotta, M.D., R.M. Maier, J.F. Artiola, M.L. Brusseau, P.I. Beamer, **K.A. Reynolds**. Assessing the Potential Risk of Metal(loid) Exposure from Consumption of Home Produced Vegetables Near the Iron King Humboldt Smelter Superfund Site, Dewey-Humboldt, Arizona. 2011 Superfund Research Program, Annual Meeting. Lexington, KY, October 2011

Suppes, L.M., **K.A. Reynolds**. Analysis of Deep-water Microbial Contaminants and Surface Air Disinfection By-products in Swimming Pools. Institute of the Environment. Environmental Grad Research Blitz. Tucson, AZ, November 2011

Sexton, J.D., **K.A. Reynolds**. Mold Control on Drywall Using Household Bleach. Q3117. Abstracts of the 110th General Meeting of the American Society for Microbiology. American Society for Microbiology. San Diego, CA, May 2010

Reynolds, **K.A.,** Z. Yang, P. Lucas, M.R. Riley. Device Development for Continuous Monitoring of Flowing Drinking Water for Viruses. Q2405. Abstracts of the 110th General Meeting of the American Society for Microbiology. American Society for Microbiology. San Diego, CA, May 2010

Nordstrom, J.A., **K.A. Reynolds**. Evaluation of the Occurrence and Risk of Microbes in Laundry and Laundry-Associated Surfaces. Q464. Abstracts of the 109th General Meeting of the American Society for Microbiology. American Society for Microbiology. Philadelphia, PA, May 2009

Miles, S.L., I.L. Pepper, C.P. Gerba, **K.A. Reynolds**. Point-of-Use Drinking Water Devices for Assessing Microbial Contamination in Finished Water and Distribution Systems. Q080. Abstracts of the 108th General Meeting of the American Society for Microbiology. American Society for Microbiology. Boston, MA, May 2008

Sexton, J.D., **K.A. Reynolds**. Occurrence of Methicillin-Resistant *Staphylococcus aureus* (MRSA) in Fire Stations. Q247. Abstracts of the 108th General Meeting of the American Society for Microbiology. American Society for Microbiology. Boston, MA, May 2008

Sexton, J.D., **K.A. Reynolds**. Monitoring MRSA in Fire Stations. AHSC Frontiers in Biomedical Research. Toronto, Canada, October 2007

Miles, S., **K.A. Reynolds,** C.P. Gerba, I.L. Pepper. Point-of-Use Drinking Water Devices for Assessing Microbial Contamination in Finished Water and Distribution Systems. Abstracts

of the 107th General Meeting of the American Society for Microbiology. American Society for Microbiology. Toronto, Canada, May 2007

Reynolds, K.A., K.R. Bright, C.P. Gerba. Assessing the Extent of Microbial Contamination in Finished Water and Distribution Systems using Point-of-Use Drinking Water Devices. Abstracts of the 106th General Meeting of the American Society for Microbiology. Abstract Q-514. American Society for Microbiology. Orlando, FL, May 2006

PATENTS

Single Copy Level Detection of Virus through Particle Counting on Paper Microfluidics Using Smartphone Based Fluorescence Microscope. Yoon, JY, KA Reynolds, S Chung. Provisional patent: UAZ-0150000_UA20-057

GRANTS AND CONTRACTS (since 2006)

Current grants (Federal)

Assessment of SARS-CoV-2 Viability and Persistence in Sewage Samples Across the United States Using In Vitro Cell Culture and Molecular Methods. (75D30121C12722) 4% effort, co-PI. Centers for Disease Control and Prevention (CDC). $349,674. 9/27/2021-9/26/2022

Advancing Safety and Reliability to Protect Public Health: Identifying Quantitative Reductions of Viral Pathogens and Surrogates for Water Reuse Applications. 3.3% effort, co-I. Federal: US Environmental Protection Agency (USEPA). (5126/8402600). Water Research Foundation (WRF), $1,239,813; UA subcontract, $1,100,000; 7/01/2021-6/30/2024

Western Region Public Health Training Center. (UB6HP31687) 25% effort. PI. NIH Health Resources and Services Administration (HRSA). Total award: $4,0153,812; 2021-2022: $1,502,890. 7/01/2021-6/30/2022

Intergovernmental Personnel Agreement. 20% effort, PI. National Institute for Occupational Safety and Health (NIOSH). $90,520. 7/1/2020-6/30/2022

Current grants (State/Foundation/Industry/Other)

Quantitative Evaluation of Air, Surface, and Hand Contamination Potentials and Impact on Microbial Exposure and Risk Assessment. 5% effort. PI. Industry: Splashblocker, Inc. $162,968. 12/14/21-12/13/2022

Exposure Assessment and Risk Impact of Air Dryers. 1% effort. PI. Industry: Excel Dryer, Inc. $76,997. 11/09/21-11/08/22

Evaluation of a real-time smartphone-based detection method for sensitive and specific detection of PFAS compounds. .01% effort, PI. Water, Environment and Technology Center (WET) Membership Agreement, University of Arizona. $15,000. 09/01/2021-08/31/2022

Water Quality Emerging Contaminants. 5% effort, PI. Industry: Intergovernmental Agreement: Tucson Water. Development of Consumer Outreach and Risk Communication Tools. $88,000. 12/08/2020-04/30/2022

Consumer Tools for Understanding Water Quality Contaminants and POU/POE Options. 5% effort. PI. $49,978. 12/8/20-4/30/22

Pilot Study: Evaluation of Hand Hygiene Intervention Efficacies Using In Vitro Methods and a Simulated Food Service Scenario. 3% effort, PI. Industry: Ecolab. $97,135. 12/28/2020-03/01/2022

Completed Research Support

Completed grants (since 2006)

Emergency Medical Service QMRA modelling on UV Impacts on Microbial Contaminants. GHSP. 1% effort, PI. $23,900. 03/15/20-05/15/21

Airplane Validation Testing, COVID Response (2020-GT-PA-144). 5% effort, Co-PI. Industry: Boeing Aerospace Company. $161,442. 07/01/2020-06/30/2021

Single Copy Level Detection of Virus through Particle Counting on Paper Microfluidics Using Smartphone Based Fluorescence Microscope. co-PI. Tech Launch Arizona (TLA). $37,806. 10/19/20-05/14/21

Bioaerosol Sampling for Quantitative Exposure Assessment of Airborne SARS-CoV-2 in a Wastewater Facility. 1% effort, Co-PI. University of Arizona COVID-19 Rapid Turn-Around Seed Grant/TRIF. $59,840. 4/6/20-10/4/20

Impact of Antibacterial Soap in a Food Service Establishment. 5% effort, Co-PI. Industry: EcoLab. $188,749. 7/31/2019-7/31/2020

Evaluation of Whole Room Disinfection and Terminal Cleaning Efficacies in Healthcare. 5% effort, PI. UA Foundation; Nevoa. $33,720. 7/24/2017-7/23/2020

Hand Sanitizer Healthcare Worker Observations. GOJO. $22,583. 02/06/20-07/17/20

Water Quality Emerging Contaminant. 5% effort, PI. Federal/State: NSF-WET Center; Tucson Water. $88,517. 8/01/2018-06/30/2020

Development of a One Health Undergraduate Program with a Global Reach. 5% effort, Co-PI. State: University of Arizona Provost Investment Fund. $157,000. 12/15/2019-12/15/2020.

City Hygiene Review. City of Tucson. $26,864. 06/15/20-12/15/20

Combined Surface Sampling and Quantitative Microbial Risk Assessment Modeling to Optimize Surface Cleaning for Targeted HAI Reduction. 5% effort, Co-Investigator. Centers for Disease Control and Prevention (CDC). $509,990. 10/1/2018-9/30/2019.

Using QMRA to Estimate Risk Target Compliance for Showering Events. 1% effort, PI. UA Foundation; Ecolab. $15,000. 2/20/2019-2/19/2020

Cost Benefit of Point-of-Use Devices in Reduction of Health Risks from Drinking Water. 10% effort, PI. Water Quality Research Foundation. $56,009. 9/24/2015-1/3/2019

Thermophilic Amoeba Evaluation in a Municipal Water Treatment System. 1% effort. PI. Aurora Water. $4,018. 6/30/19-12/30/19

Residual Surface Disinfectant Impacts in a School Setting. 1% effort, co-PI. Enviro-Master. $8,000. 9/8/19-11/20/19

Household POU Filters: Tools for Long-term, Large Volume Monitoring of Tap Water Quality and Human Health Risks. 5% effort, Principal Investigator. Foundation: Water Quality Association Research Foundation. $50,000. 12/17/17-05/31/19.

Systematic Review of Hand Drying Methods Research. 8% effort, PI. Excel Dryer, Inc. $22,499. 8/18/2018-11/30/2018

Development and Dissemination of an Online Training for Environmental Health Professionals: Legionellosis Prevention and Response. 26% effort, Principal Investigator. Taren, Douglas (Co-PI). National Network of Public Health Institutes (NNPHI), and the Centers for Disease Control and Prevention (CDC). $175,000. 12/1/2016-9/30/2018.

Modeling Virus Risks and Intervention Impacts in Healthcare Environments. 5% effort, Principal Investigator. Industry: GOJO Industries/Foundation: UA Foundation. $19,000. 10/01/2017-2/28/2018.

Development of Office Wellness Programs. 5% effort, Principal Investigator. Industry: GOJO Industries/Foundation: UA Foundation. $50,000. 12/30/2016-12/30/2017.

Water Quality Emerging Contaminants. 5% effort, Principal Investigator. Industry: Intergovernmental Agreement: Tucson Water. Development of Consumer Outreach and Risk Communication Tools. $40,000. 07/2016-06/2017

Water Quality Monitoring using Smartphone Detection from Paper Microfluidics. 5% effort. Principal Investigator. Industry: Tucson Water; Foundation: National Science Foundation's Water, Environment and Technology Center. Renewed: $23,582; 08/01/2016-07/31/2017.

Enteric Viruses as New Indicators of Human and Cattle Fecal Contamination of Irrigation Waters. 1% effort. Co-Investigator. Bright, Kelly (PI); Verhoughstraete, Marc (Co-PI). Multi-agency: Center for Produce Safety. $219,879; 01/01/2015-06/30/2017

Identifying new surrogates for irrigation water. 2.5% effort, Co-Investigator. Verhougstraete, Marc (PI). Arizona Department of Agriculture. Specialty Crop Block Grant Program. $65,441 10/21/2017-10/31/2018.

A New Way of Assaying Zika Virus through Monitoring Interfacial Effects on Paper. 5% effort, Co-Principal Investigator. Yoon, Jeong-Yeol (Co-PI). State: Pilot Interdisciplinary Project Grants. $70,000. 7/1/2016-6/30/2017.

Controlled Laboratory Chamber Study of Antimicrobial Efficacy Over Long-Term Use. 3% effort, Principal Investigator. Foundation: Knowles Science Teaching Foundation; Industry: XStream, LLC. $48,000. 2016-2017.

Impact of Spray Disinfectant on Spread of Viruses in an Urgent/Outpatient Care Facility. 8% effort, Principal Investigator. Industry: GOJO Industries. $55,911. 2015-2017.

Impact of Antibacterial Soap on fecal bacterial load on humans and household fomites. 5% effort, Co-Principal Investigator; Gerba, Charles (co-PI). Industry: Safeguard Industries. $80,000. 2016-2017.

Impact of Santa Clarita Water Softener Ban on Brine Discharge Regulatory Compliance. 8% effort, Principal Investigator. Foundation: Water Quality Association Research Foundation/ Pacific Water Quality Association. $50,000. 2016-2017.

Healthcare Surfaces Summit. 20% effort, Co-Founder. Industry/Foundation: Healthcare Industry Manufacturer Sponsored (Kimberly-Clark, GOJO, NSF International, Copper Development Association). $160,000. 2015-2017.

First Responder Safety and Health. 5% effort, Co-Investigator. Granillo, Alma (PI); Verhougstraete, Marc (Co-PI). State: Arizona Department of Health Services (ADHS), Hospital Preparedness Program (Ebola) and Public Health Emergency Preparedness Cooperative Agreements. $240,000. 10/01/2015-09/30/2017.

Hand Sanitizer Laboratory and Field Efficacy Study. 1% effort. Principal Investigator. J&A Industries. $9,692. 2015-2017.

Water Quality Monitoring using Smartphone Detection from Paper Microfluidics. 2% effort. Co-Principal Investigator; Yoon, Jeong-Yeol (co-PI). Industry: Tucson Water; Foundation: National Science Foundation's Water, Environment and Technology Center. $18,821; 2015-2016

Optimal strategies for monitoring irrigation water quality and the development of guidelines for the irrigation of food crops. 1% effort. Co-Investigator. Verhougstraete, Marc (PI). Multi-agency: Center for Produce Safety. $117,202; 2014-2016

Literature Review of Boil Water Notices in the U.S. 5% effort. Principal Investigator. Water Quality Association. $15,000; 2014-2016

Determining Data Gaps in Risk Assessment for Produce Safety. 10% effort. Co-Investigator. Verhougstraete, Marc (PI). Arizona Department of Agriculture (ADA). $50,306. 2015-2016.

Environment, Exposure Science and Risk Assessment Center (ESRAC) Continuing Support. 10% effort. Principal Investigator. Water, Environmental, and Energy Solutions (WEES) Initiative. $51,940. 2015-2016.

An Exploration of the Cost Effectiveness of Hand Hygiene Programs in Preventing Hospital Acquired Infections. 5% effort. Co-Principal Investigator. Canales, Robert (Co-PI). Georgia Pacific. $35,313; 12/15/2014-12/31/2016.

Spatial/Temporal Sampling of Irrigation Water. 5% effort. Co-Investigator. Bright, Kelly (PI); Verhougstraete, Marc (Co-PI). Arizona Department of Agriculture. $73,680; 2014-2016

Molecular Epidemiology of *Clostridium difficile* Food Contamination: Links to Human Community Acquired Infections. 5% effort, Co-Investigator. Federal: USDA-AFRI; $1,250,000; 2010-2016; PI of UA subcontract, $250,000

Water Quality Monitoring using Smartphone Detection from Paper Microfluidics. 2% effort. Co-Principal Investigator; Yoon, Jeong-Yeol (co-PI). Industry: Tucson Water; Foundation: National Science Foundation's Water, Environment and Technology Center. $32,000; 2014-2015

Chromium 6 Risk Characterization in Drinking Water. 5% effort. Principal Investigator. State: Tucson Water. $17,500; 2014-2015

Hospital Field Study of T1 Air Disinfector Recirculator Efficacy against Viral Tracers. 2% effort. Co-Principal Investigator. Verhougstraete, Marc (Co-PI). Industry: Aerobiotix, Inc. $23,427; 2014

Comparison of Real-Time Methods for Monitoring *E. coli* in Drinking Water. 1% effort. Principal Investigator. State: Tucson Water. $5,000; 2014

Quantitative Characterization of Microbial Malodor in Laundry. 12% effort, Principal Investigator. Industry: International Flavors and Fragrances, Inc. $160,234; 2013-2015

Water Quality Monitoring using an Endetec Tecta-16 Analyzer. 1% effort, Principal Investigator. State: Tucson Water. $7,400; 2013-2014

Bacterial Soft Surface Transmission Routes in Long-Term Care Facilities and Physician Offices. 7.5% effort, Principal Investigator. Industry: The Clorox Company. $62,450; 2013-2014

Quantifying Bacterial Levels on Soft Surfaces in Healthcare Settings. 3.3% effort, Principal Investigator. Industry: The Clorox Company. $48,232; 2012-2013

Virus Transmission in a Long-Term Care Facility. 12.5% effort, Principal Investigator. Industry: Kimberly Clark Corporation. $60,580; 2012-2013

Development of Hybrid Courses in Risk Assessment. 5% effort. Principal Investigator. University of Arizona Online Education Project. $10,000; 2012-2013

Tracking Microbial Transmission Routes in the Hotel Setting. 8% effort, Co-Principal Investigator; Gerba, Charles (co-PI). Industry: Kimberly Clark Corporation. $74,627; 2011-2013

Development of an Environment, Exposure Science and Risk Assessment Center (ESRAC). 10% effort. Co-Principal Investigator; O'Rourke, Mary Kay (co-PI). Water, Environmental, and Energy Solutions (WEES) Initiative. $250,000; 2012-2015

Hospital/Out-Patient Field Study of Disinfectant Efficacy against Microbes. 2% effort. Principal Investigator. Spectrashield Technologies, LLC. $27,260; 2012-2013

Transfer and Control of Infectious Microbes in Emergency Vehicles. 2% effort. Principal Investigator. Northwest Fire District & The Clorox Company. $29,170; 2012-2013

Risk Perception, Drinking Water Source and Quality in Low-Income Latino Communities along the US-Mexico Border. 1% effort, Co-Principal Investigator; Beamer, Paloma (co-PI). University of Arizona, Technology and Research Initiative Fund (TRIF) through the Water, Environmental and Energy Solutions Initiative. $39,158; 2011-2013

Development and Validation of a Questionnaire to Assess Swimming Pool Water Exposures and Health Outcomes. 10% effort, Principal Investigator. National Swimming Pool Foundation. $65,459; 2011-2012

Bioaerosol Hazards Associated with Qualitative Respirator Fit Testing.1% effort, Principal Investigator. Federal: UCLA NIOSH Education Research Center. $20,304; 2011-2012

Arts for Behavioral Change Program in Lima, Peru. 16% effort, Co-Investigator; Pleasant, Andrew (PI). Foundation/Industry: Canyon Ranch Institute/ The Clorox Company; $728,000; PI of Microbial Assessment Team; UA subcontract, $78,000. 2011-2012

Lab-On-a-Chip Flow Cytometer for the Detection of Enteroviruses. 5% effort, Principal Investigator. Foundation: UA Foundation Board of Trustees/Office of the Vice President for Research- Faculty Seed/ Community Connection Grant. $9,835; 2011-2012

Evaluation of Disinfecting Wipes for the Interruption of Pathogen Surrogate Transfer in the Environment. 12% effort, Principal Investigator. Industry: The Clorox Company. $37,989; 2011-2012

Evaluation of a Healthy Workplace Intervention. 8% effort, Co-Principal Investigator. Industry: Kimberly Clark Corporation. $85,907; 2011-2012

Toxin Producing Cyanobacteria in Egypt's Suez Canal. 6% effort, Principal Investigator. Federal: U.S.-Egypt Joint Fund. $60,000. 2007-11

The Occurrence of H1N1 and Seasonal Influenza virus on Household and Day Care Center Fomites. 10% effort, Principal Investigator. Industry: The Clorox Company. $44,164; 2009-2011.

Indoor Mold Control on Porous Surfaces using Household Bleach. 13% effort, Principal Investigator. Industry: The Clorox Company. $66,296; 2008-2010

Tracking MRSA in the Environment. 12% effort, Principal Investigator. Industry: The Clorox Company. $120,000. 2005-09

Integrated Capture and Spectroscopic Detection of Viruses. 5% effort, Co-Principal Investigator; Riley, Mark (co-PI). State: Bio5 Institute. $42,000; 2006-08

Point-of-Use Drinking Water Devices for Assessing Microbial Contamination in Finished Water and Distribution Systems. 6% effort, Principal Investigator. Federal/State: NSF/WQC. $57,000; 2007-08

MRSA Prevalence and Exposure Potentials in Paramedic Environments. 15% effort, Principal Investigator. Industry: The Clorox Company. $44,817; 2007-08

Monitoring Transmission Routes of MRSA in Gymnasiums. 15% effort, Principal Investigator, Industry: The Clorox Company. $45,110; 2006-07

Evaluation of Point-of-Use Drinking Water Devices for Assessing the Extent of Microbial Contamination of Tap Water. 15% effort, Principal Investigator. Federal/State: NSF/WQC. $73,000; 2006-07

Monitoring Methicillin-Resistant *Staphylococcus aureus* in the Domestic Environment Using Chromogenic Plating Medium. 15% effort, Principal Investigator. Industry: The Clorox Company. $177,500; 2006

This is a true and accurate statement of my activities and accomplishments. I understand that misrepresentation in securing promotion and tenure may lead to dismissal or suspension under ABOR Policy 6-201 J.1.b.

Signed:

Kelly A. Reynolds

Kelly Reynolds, Itemized List of Fees

In office activities (consultation, document review, conference calls, literature searches, reports, etc.)	250/h*
Travel days- no activity	1500/day
Out of town activity days (face to face meetings, consultation, etc.)	2500/day
High-level activities (affadavits, deposition, trial activity, etc.)	500/h**

*billed in 30 minute minimum increments
**5 hour minimum

Exhibit 2

My testimony in the past 4 years

Deposition. January 25, 2022. In re: CHILDREN'S DENTAL GROUP (In re Patient: Alejandrina Avila)
Superior Court of the State of California – County of Orange – Complex Justice Center
Judicial Council Coordination Proceeding No. 4917